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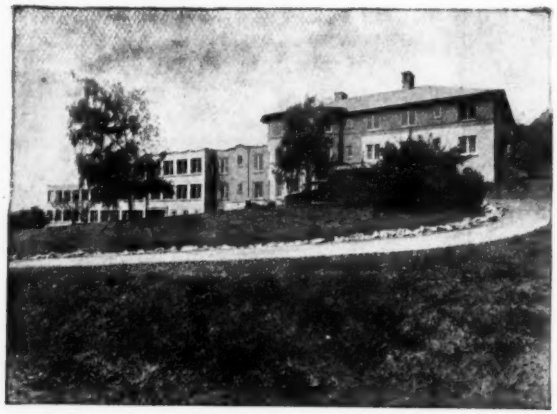

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## CONTENTS—JANUARY, 1928


Page

ORIGINAL ARTICLES—
- An Osteopathic View of Cancer Problems ....335
- The Cause of Cancer....341
- The Use of X-Rays in the Treatment of Carminoma of the Breast ....344
- Diagnosis Versus Technic....347
- Mobilizing the Thorax....348
- Anatomical Mechanics....349
- Osteopathy and the Neck....350
- Finger Technic and Finger Surgery of the Eye, Ear, Nose and Throat ....352
- Subdiaphragmatic Drainage....354
- The Trend Toward Osteopathy..355
- Diabetes — Its Diagnosis and Treatment ....359
- The Relation of the X-Ray to Osteopathic Practice ....360
- Establishing a Foot Practice....362

EDITORIALS—
- Making the New Year Eloquent..367
- "Fix It" ....367
- Evaluating Your Technic....368
- The Second Rib....368
- Cancer ....369
- Early Signs of Gastric Carcinoma ....369
- Concerning Cancer....370
- Prophylactics ....370
- Early Diagnosis and Clinical Research in Cancer....371
- Re: Causative Factors....371
- "The Conquest of Cancer"....373
- In the February Journal....373
- Again ....374
- Osteopathy, a Science and a Medical Practice....374
- Were You Examined at Denver? ....375
- Osteopathic Physicians Wanted..375
- A New District Society at Work ....375

PROFESSIONAL AFFAIRS—
- Hospitals and Sanitariums....376

PUBLIC AFFAIRS—
- Your Opportunity....376
- Bureau of Clinics....376
- Industrial and Institutional Service Bureau ....377
- Bureau of Public Health and Education ....377
- National Affairs Committee....377
- Information and Statistics....377
- State Legal and Legislative....381

STATE BOARDS ....382

PROBLEMS OF THE PROFESSION ....383

TECHNIC—
- Technic of Coccyx....384

CASE HISTORIES—
- Fasting as Parasiticide....385

DIAGNOSIS AND TREATMENT—
- Milk Diet in Pernicious Anemia..385

EAR, NOSE, THROAT AND EYE—
- The Importance of More Care in Diagnosis ....386

AMERICAN SOCIETY OF OSTEOPATHIC INTERNISTS—
- Clinical Syndromes of the Basal Ganglia ....387

AMERICAN COLLEGE OF OSTEOPATHIC SURGEONS—
- Acute Abscesses—Diagnosis and Treatment ....388

PHYSIOTHERAPY ....390

BOOK NOTICES ....391

BUSINESS EFFICIENCY ....393

COLLEGES ....395

STATE AND DIVISIONAL NEWS ....398

MISCELLANEOUS—
- Applicants for Membership....404
- Changes of Address....405
- Professional Cards ....405
- Classified Advertisements....416

# A Vicious Circle ··

## *and the proper point for its attack*

Is constipation a cause or an effect? This question is occupying much attention among physicians today, for constipation and all the symptoms surrounding it continue to occupy as large a place as ever in human life and in the doctor's daily practice.

"Constipation is like a headache," argues one authority, "simply a symptom of some underlying physical error or improper habit of personal hygiene." Worry, inadequate exercise, faulty eating habits, or the habitual use of laxative drugs—these are all influences which produce intestinal impairment.

But if constipation is an effect, it is also a cause. It often causes indigestion, heartburn, bad taste, acid eructations, suppurative diseases of the skin. Careful investigators have concluded that chronic cases of constipation almost invariably produce serious affections of the nervous system—irritability, headache, insomnia, melancholia and what perhaps might be termed *mental* stasis.

Cause and effect—action and reaction—a vicious circle. Somewhere the physician must step in and break it up. The authorities cited above point out that thorough investigation of the intestinal tract is essential. The treatment for constipation, they assert, is often all that is required to correct neurasthenic conditions — "A proper hygiene and therapy of the intestinal tract will often be the deciding factor in differential diagnosis."

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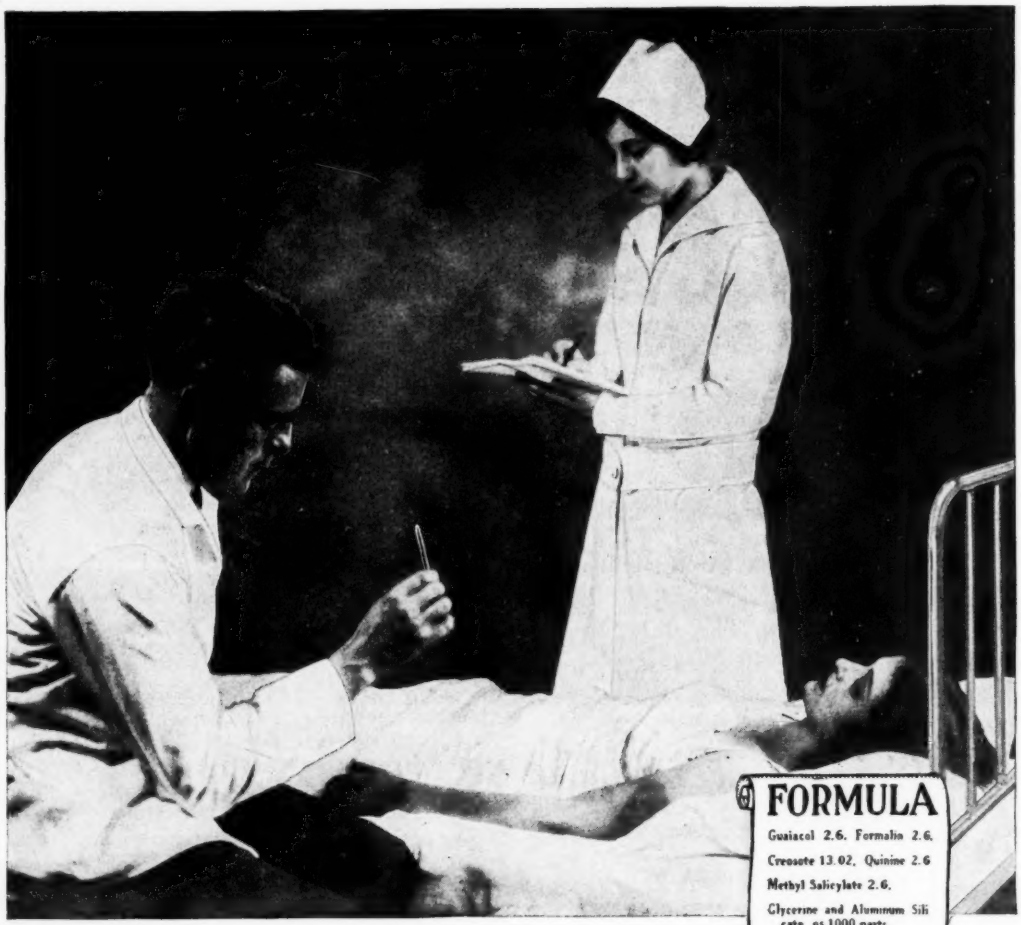

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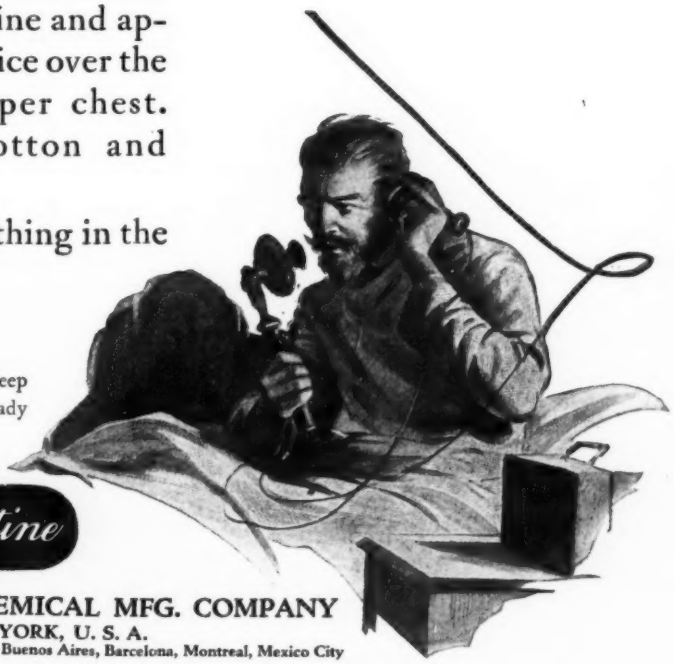

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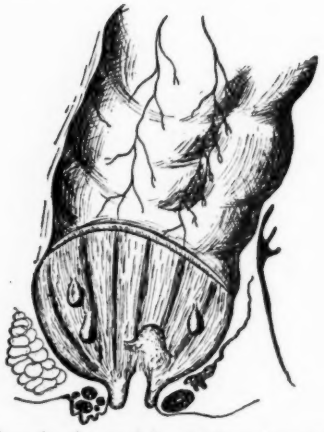

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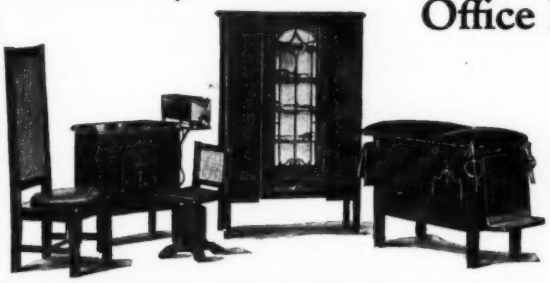

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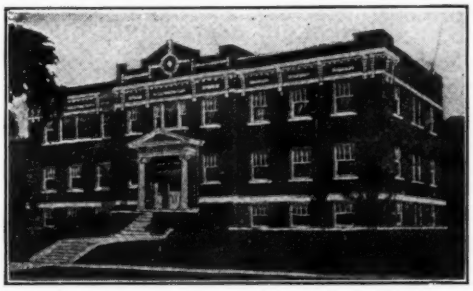

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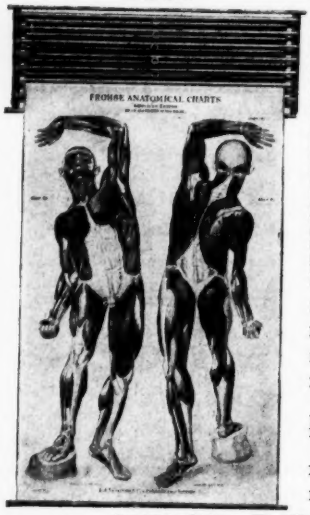


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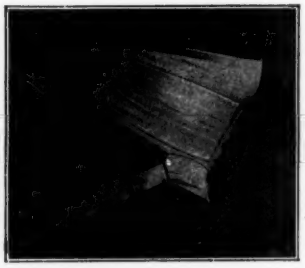

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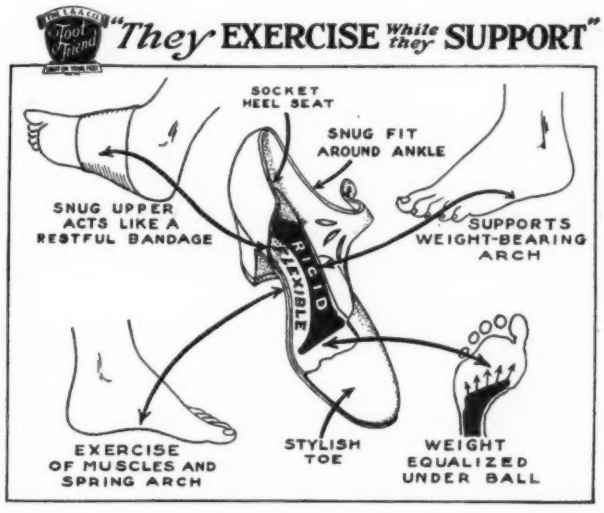


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## DIRECTORY OF ADVERTISERS


**Books and Literature, Charts**

Page

A. O. A. ....332, 366, 403, 408, 409, 412, 414, 415
Cosner, Dr. E. H. ....416
Journal of Osteopathy ....411
Merriam Co., G. & C. ....408
Nystrom & Co., A. J. ....332
Osteopathic Journal of Laboratory Diagnosis ....410
Ross & Co., Allen ....408
Saunders, W. B. Company ....Outside Front Cover
Western Osteopath, The ....410

**Colleges, Training Schools, P. G. Courses**

Kirksville College of Osteopathy and Surgery ....330
Laughlin Hospital and Training School for Nurses ....331

**Foods and Toilet Preparations**

Battle Creek Food Co. ....Inside Back Cover
Fleischmann Company, The ....323
Horlick's Malted Milk Corp. ....416
Mellin's Food Company ....410
Pepsodent Company ....325

**Hospitals, Laboratories, Hotels**

Dufur Osteopathic Hospital ....326
Finnerty, Dr. Francis A. ....334
Ottari ....Inside Front Cover
Still-Hildreth Osteopathic Sanatorium ....402

**Instruments, Appliances, Equipment**

Allison Company, W. D. ....331
Aloe Co., A. S. ....411
De Vilbiss Co., The ....413
Hayman, Dr. George T. ....403
Huston Bros. Co. ....411
Johnson Co., Zoe ....329
Kani, Dr. P. F. ....412
Philo Burt Mfg. Co. ....412
Storm, Dr. Katherine L. ....332
Ultima Physical Appliance Co. ....331
Ware Co., The Walter F. ....411

**Investments and Insurance**

Forman, George M. & Co. ....332
Professional Insurance Corporation ....321

**Miscellaneous**

Classified Ads ....416
U. S. Bronze Sign Co. ....404

**Pharmaceuticals and Endocrine Products**

Alkalol Co. ....413
Denver Chemical Co. ....327
Deshell Laboratories (2-page color insert)
Harrower Laboratories, The ....Inside Front Cover
Huxley Laboratories, Inc. ....322
Mistol ....Outside Back Cover
Oakland Chemical Co. ....403
Patch Co., E. L. ....321
Pneumo-Phthysine Chemical Co. ....324
Standard Oil Co., The ....Outside Back Cover
Warner & Co., Inc., W. R. ....328

**Professional Ads**

Edwards, Dr. James D. ....408
Professional Cards ....405, 406, 407

**Wearing Apparel**

Cantilever Corporation ....404
Lape & Adler Co. ....333

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*This issue contains two symposia: one on the cancer problem and one on osteopathic technic. The former was collected by the editor and is discussed in the original article and editorial sections.* —Ed.

## An Osteopathic View of Cancer Problems

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Los Angeles
*Dean of Educational Department, A. T. Still Research Institute*

"There is nothing new under the sun" so far as theories of cancer are concerned. In Egypt, before the time of Christ, they treated cancer with escharotics, including those made from arsenic. In Papyrus Ebers, fifteen hundred years before Christ, and in very old literature of Persia and India tumors are mentioned. Hippocrates collected many facts and theories about cancer and he burnt out a cancer of the neck about four hundred years before Christ. Galen classified tumors secundam naturam, or second nature, such as the pragnant uterus; supra naturam, or beyond nature, such as a callus; praeter naturam, or other than nature, such as tumors in the modern sense of the word. The latter were derived from black bile. The humoral cause of disease was the only one recognized. Not until the time of Paracelsus (1413-1541 A. D.), was this humoral cause of cancer denied. Paracelsus said that an excess of mineral salts in the blood caused cancer, which developed wherever these salts were accumulated. Queerly enough this view led to the administration of great quantities of arsenic and other unnatural substances.

The discovery of the circulation of the blood, by Harvey (1628) and the development of microscopical studies by Malpighi (1628-1694 A. D.), led to the "lymph theory" of cancer formation. Many interesting studies and classifications were based on the effects of "albuminous lymph" and "gelatinous lymph" in the etiology of various types of tumors.

During the seventeenth and eighteenth centuries many very unique "guesses" were made, and some of these came very near to the facts later uncovered by the use of more accurate means of investigation. Stahl, for example, held a stasis and thickening of the blood to be the cause of cancer. Hunter taught that coagulable lymph derived from the blood produced cancers and nourished them after their inception. Hoffman considered movements of fluids and tissues necessary to health, and attributed cancer as well as other diseases to stasis. Many other interesting theories were propounded, and many actual facts discovered concerning neoplasms during these years.

Even after the development of the achromatic microscope, about 1824, the theory that tumors arose from the body fluids persisted. It was supposed that a specific blastema produced a specific tumor, and very much work in the chemical examination of the blood was done in the search, for J. Miller, for example, considered the blood itself the seat of life-giving properties, the disturbance of which produced tumors.

With the enunciation of Virchow, "Omnis cellula e cellula," in 1859, a new impetus was given the entire study of tumors and especially of cancer. Since that time the study of the cancer cells, their origin, arrangement and structure, has been held of prime importance. Biological studies have been continued, by means of animal experimentation, hospital records and vital statistics, and these methods are in use to this present time.

Theories explaining the reason for the unbridled growth of malignant tissues and for the origin of malignant neoplasms in general are abundant. The recent statement of W. Samson Handley, London, quoted in a recent editorial in the Journal of the American Osteopathic Association, are interesting in connection with the views of Dr. A. T. Still, given many years ago. Dr. Handley states "I bring forward some facts and observations accumulated over many years and tending to show that chronic lymph stasis, however caused, is an important factor in determining the onset of malignant growth" (1927).

Now if we should grant that cancer arises from a blastema, or from coagulated lymph or blood, we must consider the cause of the coagulum, or the perverted blood or lymph which forms the blastema, or the accumulation of the "black bile" of the ancients. If these things cause cancer, there is some cause for these things. This ulterior cause must itself be caused, and it is the ultimate source of the physiologic or anatomic disturbance that we must find if we are to deal with these problems successfully. Undoubtedly that blood and that lymph which are kept in normal circulation, and which receive normal nutrition from normal food, and which are kept free from poison by the normal functions of the excretory tissues of the body, could not be otherwise than normal. In this search for the ultimate cause of venous or lymphatic engorgement we find the views of Dr. A. T. Still of great interest. In dealing with the problems presented by various diseases Dr. Still referred constantly to the anatomical relations of the tissues of the body, and this habit of his is, of course, the essential habit of

osteopathic physicians everywhere. The osteopathic view is the anatomic view always, with due consideration, of course, for the functional values of the structures concerned.

Throughout all his writing Dr. A. T. Still found in venous and lymphatic engorgement a most important cause of tumor development, and he described various causes for this engorgement—lesions of the lower thoracic and lumbar vertebræ and visceroptosis received most emphasis as causative agents for the obstruction to the venous and lymphatic drainage.

More recently Dr. R. D. Emery follows Dr. Still in this regard when he says "In all probability the etiological factors mentioned do not, in most cases, produce malignant disease directly but favor ptosis, intestinal stasis, constipation, auto-intoxication, venous stagnation, acidosis, localized tissue irritation and finally induce cellular proliferation of the riotous type known as malignancy." The etiological factors referred to by Dr. Emery include "hypernutrition, lack of exercise, excessive consumption of proteid foods, overcooking, refining (especially of sugars and starches) and adulteration of food, and the use of condiments." The excessive use of salt (sodium chloride) is mentioned by Dr. Emery, as it is by many authors, as an important cause of cancer. It is of interest in this connection to remember that the excessive use of salt tends to produce edema upon comparatively slight venous congestion.

If all these factors, which generally are based upon the existence of chronic toxemia, are the essential causes of cancer, the osteopathic view must consider the causes of these factors. Weakness of the supporting tissues of the body, and of the walls of the hollow viscera are the essential factors in visceroptosis, constipation, retention of waste products of the body, and local acidosis and edema. Vertebral lesions seem to be at least an extremely important cause of weakness of the visceral muscles, and of edema and degeneration of the glandular structures of the viscera. In experimental animals very marked degrees of visceral weakness and of glandular degeneration occur as a result of vertebral lesions acting alone. In human beings, of course, it is only rarely that we have an opportunity of examining persons for lesions before visceral disturbances occur, and when we do find lesions in human beings we correct them, if we can, before they have produced their evil effects. But we have enough histories of human beings with lesions to warrant the statement that vertebral lesions have practically the same effects in human beings that they have in animals, at least so far as visceral weakness and glandular degenerations and circulatory disturbances are concerned.

The excessive use of salt would not affect the blood or the tissues of the body adversely if the kidneys eliminated the excess properly, and the craving for an excessive amount of salt is, in itself, an evidence of some physiological disturbance (unless, of course, the person is almost beyond the state of complete sanity in his desires). So, the reason for the faulty elimination must be found in something which affects the kidneys—no doubt a lesion of the eleventh or the twelfth thoracic vertebræ, or some other cause of faulty circulation or innervation of the kidneys.

Dr. Floyd J. Trenery emphasizes the irritation element in the cause of cancer, and he includes as causes of this irritation "mechanical, chemical, thermal, bacteriological, the results of over-radiation, the results of oxygen-starvation (such as may occur in the circulatory whirlpools as suggested by Dr. W. Curtis Brigham) or the formation of toxins in localized areas of long-continued impaired circulation. All of these lead to a common pre-cancerous condition of impaired vitality with starvation of the cell."

The osteopathic view of these factors in etiology seeks again their anatomical and physiological causes. Some preëxistent lesion is indicated in all these factors. The mechanical irritant is evidently a perverse structural condition. The chemical irritant may be brought in from without, as a foreign body, when its elimination is the only treatment indicated. Chemical irritants may be formed within the body, in which case the osteopathic consideration is the search for the disturbance in the innervation or the circulation of the faulty tissues. Thermal irritants are almost always environmental, in which case the removal of the offending source of heat is the important factor in therapy. Bacteriological irritants must be considered, osteopathically, from the standpoint of the origin of the offending bacteria, and also of the cause of lowered immunity which permits them to remain present. Over-radiation is probably always an extrinsic factor and in order to prevent the neoplasms due to this cause it is necessary only to refrain from undue exposure to radiant energies. Circulatory whirlpools and oxygen starvation could not exist if the circulation of the body were kept normal. Rough teeth, cervical scars, and benign neoplasms are all anatomical lesions whose removal or prevention is a proper part of osteopathic therapy. If it be granted that these factors are important in the etiology of cancer, and it is generally considered that they are of very great importance, osteopathic treatments are of tremendous value in the prevention of cancer.

In recent literature bad diet and bad habits and starvation are often mentioned as causes of cancer. J. Ellis Barker, a layman with the support of Sir Arbuthnot Lane, ascribes cancer to "chronic poisoning and vitamin starvation," and considers the chronic poisoning due to the use of unnatural foods, constipation or life in the lowlands. Vitamin starvation is due to lack of fresh green vegetables, and this is especially noteworthy in high altitudes. It is evident that this attitude would account for the prevalence of cancer almost anywhere, under almost any living conditions, in any kind of people.

But where these living conditions are present there are still many persons who do not contract cancer. Evidently, then, if these views be correct there are many persons who are able to take up from even deficient foods enough of the vitamins to supply their needs, or, in the case of poisoning, there are many people who are able to eliminate these poisons sufficiently well to prevent cancer. Persons in these latitudes, then, who have cancer must have some cause of faulty elimination or of faulty absorption of the vitamin content of their food. The osteopathic attitude toward this theory of cancer, then, is the search for the causes of such faulty elimination and absorption, and the removal of those causes.

Many authors have attributed the increase in cancer to the increase in the use of vaccination and vaccine and serum therapy. However, animals used in bacteriological laboratories which have been injected with many kinds of serums do not show any increase

in cancer rate, even though they may live to a cancer-bearing age. If these things are causes of cancer, then the osteopathic attitude must be the search for the reasons why cancer-bearing persons are not able to eliminate these poisons from their bodies efficiently, as do the non-cancerous persons also subject to vaccination and vaccine therapy. The recognition and removal of the causes for this faulty elimination, as well as refusal to use those abnormal proteids in therapy, would be the duty of the osteopath who should accept this view of the etiology of cancer.

However, these various theories of the causes of cancer do not have universal support.

Rehfuss has gathered statistics concerning cancer of the stomach. He quotes Smithies to the effect that there is little or no relation between overeating, the use of excessive amounts of proteid food, inadequate mastication, the use of alcohol or tobacco in the etiology of gastric carcinoma. Rehfuss agrees with Smithies that there is a hereditary predisposition, upon which acts some irritating agency, in order that cancer of the stomach may become developed. Rehfuss believes, with MacCarty, that a gastric ulcer is such an irritating agency.

According to Rehfuss, "Many of the causes which have been described as producing carcinoma—diet, rapid eating, trauma, nervous disturbances and variations in the foods of the diet—all of them are open to some objections and certainly none of them seem to occur in the majority of cases."

Rehfuss cites also Gye and Bernard who performed experiments with transplantations: It is necessary for the growth of a tumor that there be a virus, which is apparently derived from tumor cells, which is not specific and which is inert when injected alone into any animal. It is necessary also that there be tumor cells, which are absolutely specific and which cannot develop in the absence of the virus, though they can develop in virus derived from their own or from any one of many other malignant tumors.

The findings of Gye and Bernard have been disputed by other investigators, who find no evidence of such a non-specific virus. But if there is such a non-specific virus it may be derived from other than cancer cells, that is, it seems very probable from the experiments reported that the products of abnormal protein metabolism however derived may serve as the non-specific virus. *It is evident that if this view represents the truth, the osteopathic methods of prevention would be the maintenance of normal circulation and drainage throughout the body.*

So far as the cancers which develop from gastric ulcers are concerned, we have a similar field for osteopathic research. There is very good reason for supposing that gastric ulcers occur only in those areas of the stomach whose circulation has been impeded. This statement is based upon research work done in medical laboratories by ligation of the gastric vessels and also by the findings reported for laboratory animals at Sunny Slope. (Gastric ulcers occurred in five out of eleven guinea pigs which had had lesions of the fifth thoracic vertebræ for four months. How many of these might have developed gastric ulcers if they lived longer, with the lesions present, nobody knows.)

The possibilities of hereditary cancer have received much attention always. Recent reports from the laboratory of Dr. Maud Slye are of the greatest possible importance in this connection. For certain types of malignancy, at least, she has shown that cancer-bearing is a recessive trait under Mendel's Law. In other words, most living beings inherit some agency which controls growth and renders cancer impossible, while others fail to be provided with this agency.

The osteopathic view of heredity as a cause of cancer differs from the medical view of heredity as a cause of cancer only in this, that the osteopathic tendency is to utilize all the normal functions to the best advantage, in order to secure either adaptation or compensation in the highest degree, while the most commonly accepted medical practice is one of recognizing only the fact of congenital defect, and, if this is not suitable for surgery, to cease trying to improve the condition.

The reticulo-endothelial system has been discussed at some length recently in connection with the resistance which the body makes to malignant neoplasms. This aspect of the cancer question was first discussed in classes in The Pacific College of Osteopathy by Dr. C. A. Whiting, as follows:

"One result of the inflammatory process due to cancer is the formation of 'giant cells.' These are found in abundance around the edges of the more malignant cancers, and their origin and their function has long been a mystery. They are supposed by some investigators to be evidences of great malignancy, and to be themselves harmful. This may be the case. But on the other hand they often appear to contain within their own bodies cancer cells. It has been supposed that this is due to the fact that the cancer cells have invaded and attacked the giant cells. But I think that if you will study the slides under the microscopes carefully you will find that this tissue shows the cancer cells which are within the giant cells to present various signs of injury. They do not stain well; their protoplasm is vacuolated; their cell outlines are irregular and vague; indeed, they appear as if they were being digested. On the other hand, the giant cells which contain the cancer cells do not show any particular evidences of disturbed physiological activities. It is true that some—very many, in fact—of the giant cells are overfilled with cancer cells, and that these often appear to be in a dying condition. About the same thing can be said of the phagocytes of the blood—they may often be found over-filled and dying, with their bodies containing great numbers of bacteria which they have eaten, and whose ingestion is probably of so great influence in protecting the body from infections. It is also true that the phagocytes are found in greatly increased numbers in the neighborhood of infectious agents, and especially of such infectious agents as have marked virulence, so that in the case of the giant cells we have an appearance which in many ways suggests the manner of action of the phagocytes.

This may not be a correct view—I certainly should not wish to draw any decided conclusions from the study of the few dozen slides which I have been able to study with any great degree of care; but so far as I can now see, it appears to me to be very probable, to say the least, that these giant cells are indeed friends of the body; that they are derived from the endothelium of the capillaries and perhaps from other cellular elements of the body, and that they protect the body, as far as they are able, from the invaders by eating up and digesting the cancer cells." Recent medi-

cal reports give this same view of the giant cells and the reticulo-endothelial system.

If this view is accepted, then the osteopathic methods would include the removal of all factors which interfere with the supply of these giant cells to the affected areas. The recognition of the structure of the cancerous tissues would prevent any improper manipulations, naturally.

Since Lobstein first noted the resemblance between embryonal tissues and malignant neoplasms, in 1829, many studies were made in that field. Cohnheim offered the first definite theory of tumor-development based upon embryonic misplacements, that is, upon malformations of small cell groups—or even of single cells. He supposed that such cells or cell groups were left in an embryonic state by the malformation, and that at a later time of life these began to grow, maintaining their embryonic characters and thus forming malignant neoplasms. Certainly a large group of tumors fall into this classification. The hypernephroma is an important example of such a tumor. (Adrenal tissue, usually within the kidney, originates this cancer). Dermoids, teratomata and mixed tumors are other examples of this kind of tumor. Several interesting cases of these tumors are reported in Bulletin No. 6.

The history of the rabbits at Sunny Slope shows that certain types of cancer, including hypernephroma, have developed only among individuals which were born of lesioned parents—that is, among individuals who were subjected to causes of malformation before birth, or who were developed from germ cells subjected to causes of injury. Supernumerary tissues among these deformed animals, as are supernumerary tissues generally, were frequent sites of later cancer-development.

The osteopathic use of these facts would lead to the maintenance of correct anatomical and physiological conditions among parents and those who are to become parents. Not only bony lesions such as are used in the experiments at Sunny Slope, but also various poisons and diseases act upon the germ plasm and upon the embryo and the fetus in utero in such a way as to increase the proportions of defective offspring in all animals including the human race. That deformed babies do not occur in the families whose members are under osteopathic care as often as they occur in families under medical care seems to be a fact, though our records are yet too scanty for a definite statement to be made. There is no doubt that parental vertebral lesions increase the proportion of defective young in all classes of mammals used in the experiments, and in the human race so far as human records are available.

The place of fibrinolysis in the prevention of cancer is being studied in the clinical laboratory of The A. T. Still Research Institute. Since this is the only aspect of the cancer problem which is apparently exclusively osteopathic in origin and development, a short resume may be properly given at this time.

The study of the blood changes in persons subject to malignant neoplasms was begun after considerable study of such tumors, and of the literature upon the subject including also some experimental study of the repair of wounds, embryological growth and the pathology of chronic irritations in vegetables, animals and human subjects. After these studies, which have occupied intervals of time for twenty-six years, the following statements can be made:

1. Cell multiplication is controlled, to a considerable extent, by pressure changes within a cell. Intracellular pressure changes are usually dependent upon a surface membrane or a cell wall. Vegetable cells, embryonic cells and those adult cells for which unlimited reproduction is normal, have either a definite cell wall or a limiting layer which is somewhat tense or is of gelatinoid consistency. Adult animal cells which have lost their power of reproduction have no cell wall, and their surface membrane is less dense than the protoplasm; nerve cells are a good example of this state.

2. Wounds in the adult body are associated with a coagulation of blood or lymph or tissue juices and this forms a firm wall around the cells of the injured area. Intracellular turgidity with intracellular increased pressure initiates cell division and this process repairs the wound and, to some extent, replaces injured tissues. Repair being completed, no further coagulum is formed and cell division ceases. Fibrinolytic ferment digests and the ordinary processes of absorption and circulation remove the wastes thus produced.

3. Cells of malignant neoplasms have a gelatinoid limiting layer and an intercellular coagulum is usually present. Fragments of blood cells and other debris of unknown origin are often found entangled in the meshes of this coagulum. There is no fibrinolysis of this coagulum and there is no efficient removal of the wastes.

4. Cancer heredity and the presence of fibrinolysis follow Mendel's Law. Cancer tendency is a recessive trait; fibrinolysis is a dominant trait. While statistics of human malignancies are yet far too scanty to show whether Mendel's Law holds of all cancers, yet enough has been done to indicate that cancer-probability is due rather to a lack of some cancer-protective mechanism than to the presence of some cancer-compelling mechanism.

After an examination of these facts, the possibility presented itself that at least a part of the cancer-protective mechanism lies in the speedy digestion of the coagulum, with speedy return of the cells to their adult type, without any limiting layer of comparatively dense material and without ability to multiply. The lack of some fibrinolytic ferment might be one factor concerned in the cause of cancer.

Tests were made which proved the existence of such a ferment. Studies of eleven hundred persons with cancer and with other illnesses, and with no sickness at all, of perons with cancer-bearing ancestry in varying degrees and with cancer-free ancestry for many generations, all finally gave the following results:

The presence of normal fibrinolysis is subject to Mendel's Law as a dominant trait.

Normal fibrinolysis is at least one factor in protection against cancer.

The osteopathic use of these findings is two-fold. First, it is important to determine whether fibrinolysis can be affected by abnormal structural conditions of the body; whether it can be increased, decreased or developed as a result of any structural or dietetic conditions. Second, its presence should lead to a more

adequate selection of subjects for surgical intervention.

Research work in the fields of oconology and teratology continues. The osteopathic student suggests certain variations in the technic of these investigations.

Individuals possessing deformities or supernumary tissues do not always develop cancer. The comparison of those who do develop cancer and those who do not develop cancer, under what seem to be identical conditions, would be useful in the study of the etiology of cancer.

Recently many experiments have been performed in the transplantation of tumors, and the development of normal embryonic tissues and tumor tissues in vitro. In the transplantation experiments it has been found that many animals are immune to the grafts, while other animals of the same kind and even of the same family may be ordinarily or extraordinarily susceptible. Here again it would be most important if the differences between the immune and the susceptible could be discovered. The osteopathic treatment would depend upon the nature of such differences.

Certain groups of cancer must be considered together and conclusions should be based only on statistics derived from such a group. For example, the epitheliomas occurring among chimney sweeps, gardeners who handle soot, men who work in coal tar and its derivatives, and the animals who develop epithelioma after the application of various coal-tar derivatives upon the skin present certain similarities. Probably the Kangri burn, which is an epithelioma of the skin of the abdomen occurring among people in Afghanistan who wear a small charcoal stove for warmth, should be included in this group. In this group there seems to be no question of vegetarianism versus meat-eating. The group includes vegetarian animals and meat-eating animals, in experimental laboratories, and people who contract epitheliomas of this particular group include the vegetarian Hindoo and the meat-eating Englishman. Not every animal in the laboratories subjected to the tar applications contracts cancer; not every person who handles soot contracts cancer; the comparison between animals of a certain class, with the same food and care and the same applications of tar (or its derivatives) with reference to their cancer-susceptibility or their cancer-immunity should give really useful statistics. Such statistics are not available.

The traumatic cause of cancer could be studied in this manner also. Women who sew and who are constantly using their breasts for pincushions sometimes have cancer of the breast. But what is the difference between the one who develops cancer and the one who does not, if both live on about the same food, under the same conditions, and prick themselves with about equal frequency?

The relation between civilization and cancer is much discussed. Vedder gives statistics showing that among native Filipinos there is rather more cancer than among the people of the United States, and that betel-nut cancer is not responsible for a disproportionate number of the malignancies observed.

H. Gideon Wells gathered statistics from many sources and he believes that antemortem diagnosis is still too uncertain, and that postmortem examinations are still too infrequent to permit any satisfactory conclusions derived from vital statistics. He doubts that cancer is increasing at all, except that more people now live to a cancer-bearing age, and that modern diagnosis is a little more accurate.

According to many statistics, quoted abundantly by Frederick Hoffman, primitive races show relative immunity to cancer, so long as they live under primitive conditions. But under primitive conditions many die in youth, and diagnosis is almost absent, and postmortem examinations unthinkable. It is popularly supposed that wild animals do not have malignancies, but that they develop a tendency to cancer when they are kept in captivity or kept associated with mankind. But here again it is true that wild animals usually die in youth, their bodies are not examined and any except the most obvious tumors remain unrecognized. Cancer has been said to be increasing among negroes since slavery ceased. Diagnosis of illnesses occurring among negroes is more accurate since slavery ceased, and this may be the sole cause of increase in the number of reported cases. Negroes have not changed their living conditions, in the South, since slavery; at least not enough to affect their metabolism. The entire question remains unsettled. That primitive peoples do have some cancers is beyond question.

Primitive races may be meat-eaters or vegetarians, may eat much or little salt, may work very hard or live in idleness. They have good stout spinal columns, and vertebral lesions are rarely found on the most careful examinations. They are not subject to visceroptosis and are not subjected to the attentions of drug-giving doctors. Their hygienic conditions are not beyond reproach, but they have no lack of fresh air. If these people really do have a low cancer-incidence, why? And what is the difference between the ones among them who do develop cancer and the ones who do not? Even among primitive people, the study of cancer must take into account the difference between the cancers due to congenital defects, those due to hereditary conditions, those due to local irritations and those of any one of many causes. In the case of congenital defects, of course, the causes of these defects must be considered also.

The history of certain cancerous fish is of great interest. In "Carcinoma of the Thyroid in Salmonoid Fishes" the records given seem to indicate that the feeding of unnatural food, the pollution of the water and overcrowding of the tanks were all concerned in the etiology of the disease. But the same cancer of the thyroid is occasionally found among wild fishes living under natural conditions, and even under the worst degrees of the conditions mentioned there are many individuals who seemed to be completely immune to the diseases. A comparison of the immune under bad conditions, the susceptible under bad conditions, the wild susceptible and the wild immune would give really useful information.

Since the use of x-ray in diagnosis and therapy it has been found that frequent exposures to x-ray may cause cancers. X-ray operators now protect

themselves, so that such histories are almost never found nowadays. But in the early history of the x-ray machines there were some who contracted fatal malignancy early, others who contracted benign neoplasms and others who contracted no disorder whatever, though these persons lived under practically the same manner. A comparison of these people might give some useful information. Animals might be subjected to the x-ray under similar conditions, and the differences between those who were susceptible and those who were immune might add to our useful knowledge.

All these considerations are general. But the cancer problem is not so simple, any more than any other growth problem is simple.

There is not any one thing which is a cause of cancer, any more than there is a single thing which is a cause of disease or pain or of normal growth in healthy persons. The osteopathic viewpoint is that normal structure is essential to normal function. That obstructions in the flow of the vital fluids is the most important factor in the cause of disease has been held vital since Dr. Still treated his first patient. Perhaps it should be said also that Dr. Still did not fail to recognize the importance of good hygiene in the maintenance of healthy conditions of the body.

In an academic sense, the findings of cancer research are of equal value to medical and to osteopathic practitioners. But the osteopathic viewpoint leads to a practical use of every new fact which concerns the structure of the human body, the manner in which it reacts to the causes of disease and the changes which occur during recovery from abnormal conditions. The questions which are asked of the pathologist by the medical man and the questions which are asked by the osteopathic practitioner are very different for this reason. So osteopathic investigations of cancer will probably differ somewhat from medical investigations of cancer as has been suggested.

In a recent editorial in the JOURNAL OF THE AMERICAN OSTEOPATHIC ASSOCIATION the statement is made that "Osteopathy is the greatest prophylactic measure against cancer and in the very beginning of cancer the very greatest curative measure that can be offered to the human race."

Perhaps this rather fragmentary discussion of the problems associated with the study of cancer may help to explain this statement.

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### Evidence That Cows Synthesize Vitamin B.

In an investigation extending over four years at Pennsylvania State College, evidence has been found that cattle will grow normally to maturity on food that has insufficient vitamin B to support general well being in rats. Cows were fed the experimental ration continuously for more than two years, and their milk was found to be as potent in vitamin B as that from cows receiving good winter rations. The investigation clearly indicates, the authors say, that cattle have no requirement for vitamin B in the ration because of the bacterial synthesis of vitamin B in their rumen.

—*Jour. A. M. A.*, Nov. 5, 1927.

# The Cause of Cancer

ROBERT D. EMERY, D.O.

Everywhere throughout the world people, laymen and physicians, biologists and surgeons are asking the cause of cancer. Many deem an understanding of the etiology of malignancy a sure forerunner of adequate methods of prevention and cure.

That there is a very real and tangible cause of malignancy none can doubt, but it is probably true that the etiology of malignancy is not the fixed and unchangeable factor that most physicians and almost all laymen consider it to be.

We can heartily agree with Maud Slye that in order to have cancer we must have "both the susceptible soil and the irritating agent." But I cannot unreservedly agree with her when she asserts that "everyone, except those with an inherited tendency to cancer, is immune" any more than I can agree with those who assert that cancer is a specific germ disease.

It is far wiser in the present state of our limited knowledge to accept a broad view of the problem and recognize the logic of James Ewing's statement that "there are about as many specific diseases in the group of malignant tumors as among the inflammatory diseases, and I can see no more reason for assuming a single cause for one group than for the other. This view has gained much support from the increasing list of cancers known to be caused by specific non-parasitic agents, such as tar cancer, x-ray cancer, betel nut cancer and kangri cancer. The many tumors of lower animals caused by nematode worms must be referred to the irritation of specific chemical agents which are secreted by the worms and not to micro-organisms." Ewing has furnished us with a most comprehensive analysis as to why germs cannot produce cancer directly. Micro-organisms may, of course, secrete irritating chemicals which might stimulate tumor growth similar to those caused by the chemicals from nematode worms.

What really is the meaning of heredity in the etiology of cancer? Miss Slye considers that unless a person is born with a susceptibility to the disease that other causative factors cannot produce malignancy. Dublin (statistician for the Metropolitan Life Insurance Company) has demonstrated that cancer has shown an increase of 47% for males and a 21% increase for females in so short a time as fifteen years. If these figures of the Metropolitan Life Insurance Company are accepted by Miss Slye, she must agree that susceptibility to cancer is steadily on the increase, and this must mean that an average individual must be more susceptible to cancer in later life than at birth, showing a slow and steady increase in susceptibility. This is supported by the conclusions shown by Hoffman that the liability to cancer is increasing much more rapidly than the cancer death rate.

As the most extensive animal experimentation has proved conclusively that age has nothing to do with cancer, we should give even greater heed to the problem of the factors in human life which favor increased susceptibility to cancer in the lives of individuals and in the human chain of descendants.

In affirming that age has nothing to do with cancer, Leitch states "if we take two series of animals, one old and the other young, and subject them to the action of the same carcinogenic agent, say coal tar, we find that the cancer will appear as early or as late in the one case as in the other. Experiment has demonstrated quite clearly that the reason why cancer occurs most frequently in middle or old age is that the responsible agent takes so many years to produce its effect." This is truly a departure from Paget's statement that everyone would die of cancer if they lived long enough.

Coming to the conclusion that for actual cancer we must have susceptibility and that susceptibility is increasing in the average individual and in the average chain of descendants, and that age has no effect upon the production of cancer but that the responsible agent in cancer production must operate over a long period of time, usually for many, many years, we feel that we have advanced a real step in our understanding of the problem and we are anxious to examine (1) the possible factors in the increasing susceptibility and (2) the actual carcinogenic agents which must operate over the years in order to actually inaugurate carcinoma or malignancy.

It is easy and natural for us now to conceive that the fundamental agencies augmenting cancer susceptibility are varied and the real exciting substances or influences of cancer are probably multiple and possibly very numerous.

The life cycle of cells under physiologic and under pathologic conditions is also pertinent and throws additional light on the problem. Gilford says:

> The cells of the human body may be divided into two classes corresponding with the zoological classes of the protozoa and the metazoa. The cells of the body which have protozoal affinities or resemblances are those of the connective tissue and lymphoid series. It is one of the elementary doctrines of biology that the white blood corpuscle has a remarkable resemblance to the ameba. So also are the various kinds of lymph cells, lining cells and connective tissue cells little more than so many species of protozoa; for though it is true that each has its relations with other cells, as a member of the organization to which it belongs, yet in its simplicity of form and in its menial work its affinities are evidently far more protozoan than metazoan. All these low grade cells have their phases of rest and activity. Some express one phase, others another phase of unicellular life in excelsis, but all alike have the faculty of easily throwing off their special features and of resuming the freedom of cellular independence. Thus connective tissue cells may lie dormant and encysted for years together and then again become free. Endothelial cells, ordinarily flattened into mere lining of some capillary, may fill out into large globulous monocytes and once more become actively ameboid and phagocytic.
>
> Moreover it is in keeping with the law of recapitulation of characters that these protozoal cells of one ontogeny also resemble the protozoan of our phylogeny in that they never grow old and would never die were it not that their fate is bound up in that of the superior or metazoan cells to which they always subordinate. The house in which they live crumbles to pieces and is wrecked and these humble cells are crushed among the ruins, but they themselves are in no way responsible for the disaster.

Irving Fisher reports:

Woodruff of Yale found no natural death in a culture of Paramecium in 8,500 generations, equal to 250,000 years of human life, and the culture was going as well at the end as at the beginning. Morgan of Columbia found that 1/250 of a worm (P. maculatal) will regenerate and be "younger" than the original. Carrell has kept the cells of a chicken embryo's heart alive for many years by washing out the poisons generated in the life process and protecting against infection and food deficiency.

A full appreciation of these cellular resources must be reached in order to more fully comprehend the changes in morphology and function of cells in the human body in cancer change. Cells are trying to do the very best they can to maintain, under existing conditions, the life and health of the individual of whom they are component parts.

The difficulties with which they are beset are oftentimes almost or quite overpowering and they are obliged to resort to retrograde changes in order to continue life.

Blair Bell states:

Satisfied that the chorionic epithelium—the trophoblast—and especially the outer layer of the syncytium is normally malignant in character, in that it has the powers of eroding the blood vessels and other maternal tissues in the search for nutriment, of cellular multiplication and of forming metastases, evidence has been sought to support or negative the view that the cancer cell is a reversion on the part of the somatic cell to the chorionic epithelium —that is to say, dedifferentiation occurs because the process is reversionary.

Warburg has shown, although the full significance of the observation does not appear to have been fully realized, that if somatic resting tissues—which in both aerobic and anerobic conditions have practically no glucolytic power —be first starved of oxygen for a considerable time, they take on a glucolytic action after the manner of the cancer cell, though of course, much less pronounced. Here then we have a clear suggestion of the metabolic disturbance which may induce the change from normal to malignant tissues, namely, oxygen starvation.

So Warburg's theories and proofs of oxygen starvation in cancer afford us still further light on cancer etiology.

Other investigators have advanced the theory that cells not only manifest reversionary traits for the purpose of eroding vessels and irritating tissues in the search for nutriment, but they also undergo reversionary changes that the more primitive or protozoan types may be better able to combat microbic foes and parasitic, catabolic chemicals which may be unfavorably influencing the precancerous or cancerous individual. Thus, let us say, if a glandular secreting cell is fully occupied with the function of providing glandular secretions it obviously has no reserve with which to combat infections or catabolic chemicals, but if this cell reverts toward the protozoan type it is relieved of its specialized function and is energized to combat the foreign influences.

Thus we advance our hypothesis as to some of the factors which increase susceptibility to malignancy, and Nature's attempt at adaptation. But there are many others. When we estimate suboxidation and oxygen starvation we are confronted with the influence in our modern cities of automobile smoke, factory and residential coal smoke, air sewage, which is respired by humans in churches, theaters and other edifices for public congregation, and many other environmental factors detrimental to human life and vigor.

The decrease in human vigor is probably the greatest factor in cancer susceptibility for it is the summation of all of the agencies which interfere with the normal nutrition of the cell and the complete elimination of cellular waste.

Anything which lowers bodily vitality, causes ptosis of tissues and organs, produces stagnation of blood and lymph, is contributing to precancerous states and the individual's susceptibility to malignancy. The very effort on the part of the organism to combat these influences of ptosis and stagnation (reversionary change) may well be the very agency that causes cancer. We, however, feel certain that in addition to this accommodative effort on the part of Nature to revert cells to syncytial cells or protozoan types there must be irritation and the evidence at our disposal indicts both intrinsic and extrinsic agents as the immediate irritative factors—a hot pipe stem to the lip, a blow upon an area of chronic mastitis, a prolonged low grade infection, broken teeth, acid discharge through the uterus from a low grade tubercular infection of the Fallopian tubes, hot liquids frequently swallowed, osteopathic lesions disturbing circulation to liver, stomach or intestine, irritative constipation and many more similar causes produce cancer of lip, tongue, cheek, stomach, gallbladder, intestine, womb, rectum or other tissue or organ. When? When the tissue susceptibility is there with its oxygen starvation, its excess of toxemia, its circulatory insufficiency, its excess of sodium chlorid and neutral sulphur, its deficiency in potassium, and above all its stagnation or decreased rate of lymphatic circulation.

Siversten and Dahlstrom have collected rather impressive evidence to show that muscular activity reduces the incidence to cancer and stimulation of lymphatic circulation is undoubtedly responsible for this by reducing acidosis and favoring elimination of cellular waste.

Studies on the salmonoid fishes go still further and stopping not with the reduction of cancer incidence show muscular activity happily bringing about spontaneous cure of their so-called thyroid cancer. This same influence of active exercise is probably one of the greatest factors in the establishment of immunity and the protection of the primitive races from the cancer scourge. As athletic trainers everywhere have demonstrated that the most eflective exercise, gauged by accomplishment, is secured under certain dietetic regime, we can appreciate that diet in relationship to adequate exercise produces a marked influence on cancer incidence.

The Cohnheim theory of cell rests stimulated intensive study for the proofs of this hypothesis—resulting in bringing to light the defects in the theory, which show that the mere presence of embryonal cells was not sufficient to account for their growth in tumors, and that tumors grow where probably no embryonal cells exist. It becomes necessary to analyze how tumors arise from cells which are neither originally misplaced nor essentially embryonal. The theory of cell autonomy is

developing in explanation of the defects of the Cohnheim theory.

The germ of the theory of cell autonomy appears to lie in the antagonism of epithelium and connective tissue throughout embryonal development. Epithelium appears everywhere to be the dominating embryonal tissue and it ceases to grow when it is met by sufficient resistance from connective tissue. To account for the limitless growth of cells, embryonal or adult, the theory of cell autonomy introduces the conception of tissue tension. The theory of tissue tension assumes that cells are capable of growing indefinitely unless restrained by a complex group of forces. What then are the restraints of growth? At least four such factors are known: (1) Mechanical pressure of cells upon each other; (2) disturbance of nutriment; (3) the influence of specialized function, and (4) organization. The first three of these restraint factors are easily understood and appreciated; for biologists have long stressed the significance of a division of the energies of cells between proliferation and specialized function, between work and growth, and the influence of nutriment upon these functions. If it were not for the restraints of growth all tissues would grow beyond the limits of any useful purpose and produce unrecognizable monstrosities.

All the phases of organization cannot be discussed here, but it should be remembered that the limitless growth of tumors early suggested that cancerous tissues had lost the control by the organism. Animal experimentation at the A. T. Still Research Institute during the last few years has given specific and extensive proof that the osteopathic lesion—tissue displacement—has a very marked effect upon the autonomy of the cell, growth restraints being tremendously changed and modified in some instances with local and general overgrowth or undergrowth of tissues and organs. As Dr. Burns says: "These changes mostly come about as a direct result of just one factor—tissue displacement, resulting in nervous and circulatory derangements of tissues and organs."

These changes in rabbits and guinea pigs, it should be emphasized, come about apart from financial worries, tight lacing, high heels, coffee, meat, tobacco and alcoholics, impure air, improper diet and all the other causes so often cited as the specific etiological factor in neoplasmic onset or deforming process. Marked variations of growth from spinal lesions may and do seem to be influenced by the exact method of producing the spinal lesion and, therefore, probably of the lesion itself.

Conceding that spinal lesions do cause this disturbance in cell autonomy it does not follow that the spinal lesion is the only or even the most frequent cause under the complexities of living in a modern civilization, and furthermore, in the light of our present knowledge the exact manner in which the spinal lesion operates to produce this result is rather problematical.

That spinal lesions, whether primary or secondary, do produce an effect upon nerve impulses and upon the circulation of blood and lymph resulting in changes in morphology and function, none will presume to deny. This fact should be looked upon as another marked contribution to the study of neoplasms, especially concerning their cause.

Before closing this paper the role of potassium in the human economy and its relationship to cancer must be more fully stressed. Unquestionably there is an optimum of potassium in the tissues for maximum efficiency and there is much evidence to indicate that there are various factors included in the foregoing discussion which bring about a disparity or imbalance in the potassium equilibrium. Generally the disturbances manifest in the decrease in the potassium content of the cell and as soon as this decrease occurs, lack of oxydation results, producing acidosis and decreased metabolism. It has been suggested that the body in the absence of a normal amount of potassium and the presence of an excess of sodium chloride endeavors to remedy the potassium deficiency by substituting some sodium to fill the potassium deficiency. It has been proved time and again that potassium and sodium cannot be used interchangeably in the body even in mild degree, if maximum efficiency is to be maintained, and for this reason it has been strongly urged that any excess of sodium chloride in the body should be sedulously avoided and every effort exerted to maintain the proper potassium balance.

The decreased bodily vitality and acidosis associated with potassium deficiency resulting in increased stagnation of lymph may be considered one of the factors in cancer etiology which should be given further study.

As ammonium sulphate could very easily be produced in the human body it is pertinent to the subject that certain studies suggest that it may be the ammonium sulphate in tar and soot that produces certain "trade cancers" of the skin. If this is true, then ammonium sulphate may be a very real carcinogenic agent.

In summarizing the foregoing statements relative to the etiology of cancer some things stand out prominently as follows:

In order to produce cancer there must be a (1) susceptibility; (2) there must be some sort of irritation usually over a long period of time.

(3) Heredity appears to play a part in connection with cancer production only in so far as it increases susceptibility in the individual.

(4) Age of the patient appears to have nothing to do with cancer production.

(5) Carcinogenic agents must act over a very long period of time before cancer can be produced. Ammonium sulphate may be one of these agents.

(6) Carcinogenic agents having acted for a certain period of time, even though their action is withdrawn, oftentimes have started in motion certain activities or changes in the cells which will continue until definite malignancy is present.

(7) As to the irritative factors which produce cancer, some of them are easily appreciated but others are very obscure as to their nature and mode of action.

(8) As to the relative importance of the various influences which produce susceptibility, oxygen starvation probably stands in the front rank, but it is difficult to conceive the presence of oxygen

starvation without other factors leading up to this abnormal state.

(9) The relationship of exercise and the relationship of poisons both intrinsic and extrinsic have a very important role in connection with bodily susceptibility. Particularly would we emphasize the importance of sewage in the respired medium, whether it be in the air utilized by human beings or in polluted water utilized by fishes.

(10) The interference with the oxygen supply favors oxygen starvation and bodily irritation. Potassium deficiency, excess of sodium chloride and excess of neutral sulphur are probably some of the forerunners of marked oxygen deficiency.

(11) A summary of these various factors would not be complete without considering the importance of the general disposition of the various cells of the body under varying conditions of health and disease, and the subject can be most comprehensively viewed by estimating the factors of cell autonomy, particularly with relation to the relative importance of the functions of epithelial cells and connective tissue cells.

(12) There probably is no such thing as absolute immunity to cancer, for it would appear that even in the short period of one lifetime an individual born immune may develop susceptibility before the close of life. This, of course, is very unusual; for it probably takes several generations in the regular course of events to produce susceptibility. However, such influences as x-ray may change this natural immunity and produce susceptibility in a much shorter period of time.

(13) All of our evidence to date indicates that such an organism as a cancer germ does not exist. The cancer cell is the only cancer germ.

(14) Primitive types of cells appear to be possessed of immortality and therefore the question of longevity is, in large measure, a problem of cellular nutrition, elimination and protection from infection. In large aggregations of cells, such as found in the human body, the problem of carrying nutrition to the cells and eliminating wastes adequately, thus affording vitality which in large measure protects against infections, is obviously a stupendous task and the lowering of vitality begins in all probability with a deficiency in the eliminative effort followed shortly by an inadequacy of nutriment, in turn soon followed by the introduction of infections, resulting in tooth decay, tonsil infections, changes in the intestinal flora, etc. If perfect equilibrium of the processes of elimination and nutrition could be maintained, not only would the primitive or protozoan types of cells be immortal or practically immortal, but somatic cells with specialized functions would probably also enjoy an approximation to that ideal state. Under such conditions it is hard to conceive of the duration of human life and the factors of susceptibility and irritation that could enter which would induce malignant change. It is to be hoped that the time is not far distant when such an understanding of the potentialities and functions of the body and of their proper direction will be secured that the possibilities of nearly perfect elimination and nutrition will become actualities, thus extending the span of human life well on toward the two hundred year mark and providing a high degree of immunity to cancer throughout the whole period of that span.

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# The Use of X-Rays in the Treatment of Carcinoma of the Breast

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It is generally accepted that roentgen rays have a very prominent place in the treatment of carcinoma of the breast. The end results of surgical treatment alone, considering the present refined surgical technic and the fact that the surgeon gets a higher percentage of early cases, are far from encouraging. The frequent brilliant results from radiation therapy in inoperable cases greatly arouse our enthusiasm.

There are, however, many widely separated ideas of the proper application of this valuable method of treatment. Unfortunately, reliable statistics as to the results are not available, due to the impossibility of developing a standard and uniform technic and to a lack of uniform classification of cases. No universal method of handling these cases has been developed and probably never will be. No two men who have reported their results have used the same classification of cases. It seems that this latter difficulty might more easily be overcome. The best that we can do then, is to select the method that seems to be the most logical and adapt it as best we can to the particular patient in hand with such modifications as our own individual equipment permit and require. It seems then, after nearly twelve years of personal experience, that the proper combination of surgery and radiation therapy is the procedure of choice.

## DEVELOPMENT OF THE MAMMARY GLAND

In order that we may have clearly in mind the structures of the breast, especially the lymphatics which are all important in the course, prognosis and treatment of carcinoma of the breast, it is well to

consider briefly some of the most important features.

In the embryologic formation of the breast, Schmitt described the mammary line in the embryo, appearing as early as the third or fourth week; this mammary line extends from a point just posterior to the anterior limb bud to a point just anterior to the posterior limb bud. By the end of the second month, this line devolps into hillocks which are composed of differentiated epithelial and smooth muscle cells. A cross section of one of these hillocks simulates a biconcave lens. As growth progresses, this group of cells projects into the cutis and forms a ball. In the center of the surface of this group of cells, there develops the glandular area, which gradually deepens, small buds forming which later branch out and form ducts of the gland. In the human embryo, only the fourth hillock develops, although frequently one or more pairs of rudimentary glands remain. The lymphatics develop fully during intrauterine life, and in those cases in which supernumerary glands appear, there is a definite connection between the lymphatics of the glands on the same side of the body. At birth all the structures are present equally in male and female. They remain practically stationary until the age of puberty when further development occurs in the female, more buds are formed and the ducts branch out into the stroma. This development is accompanied by an increased development of the stroma as well as an increased deposit of fat. The fully developed virginal breast has but a small amount of real glandular tissue. With pregnancy and lactation the glandular development is completed. There is also an increased development of the ducts which may extend even through the fascia of the pectoralis major.

The following description of the lymphatics is, in the main, that given by Stiles, and differs somewhat from that of other authors. There are five sets of lymphatic vessels:

1. Superficial or cutaneous, including those of the nipple, areola and surrounding skin
2. Subareola plexus described by Sappy
3. Intramammary
4. Those of circummammary fat
5. Retromammary

The cutaneous lymphatics are similar to the cutaneous lymph vessels elsewhere. It is to be noted that those of one side of the body communicate with those of the other. This explains the occurence of axillary involvement of one side from a tumor on the opposite side. Beneath the skin of the nipple and areola, the network formed by these vessels is very close, being particularly rich upon the nipple. They open mainly in the subareolar group.

The subareolar lymphatics consist of very large vessels forming a wide meshed network running horizontally in the loose oreolar tissue around the lacteal sinuses. This group is connected with the cutaneous vessels as well as the intramammary vessels. It serves as a means of communication between the two. From the subareolar lymphatics Sappy states that there are two and sometimes three large trunks which open into the axillary lymph nodes.

The intramammary lymphatics begin as a plexus of small channels, consisting of the single layer of endothelium supported by stroma. Each mesh of the network surrounds one or more of the ultimate lobules of the gland, and receives its lymph from the interacinous spaces. From this layer vessels parallel to the milk ducts proceed to the subareolar plexus into which they empty. Waldemeyer decribes lymph spaces all around the gland acini. These periductal, as well as the perilobular lymphatics, anastomose with others which are closely related to the blood vessels. The larger blood vessels are accompanied by two or more lymphatics which occupy their sheaths. The smaller vessels are usually accompanied by one lymph channel which is larger than the vessel and more or less completely surrounds it.

The circummammary set receives branches from the skin of the ventral surface and circumference of the breast. It is merely a part of the general lymphatic system of the anterior chest wall. From this set larger lymph vessels proceed between the layers of the deep fascia. They soon pierce the deep layer of the fascia and proceed as large muscular walled lymph vessels to the lymph glands.

The retromammary lymph glands include those of the pectoral fascia. They receive branches from the posterior surface of the gland. Either directly or indirectly some of the lymph from all other sets passes into these lymphatics of the deep fascia which accompany the mammary blood vessels and thus reach the thoracic lymph nodes.

The lymphatics of the medial part of the gland accompany the branches of the internal mammary artery through the chest wall and empty into the sternal lymph nodes situated along this artery. A great many accompany the branches of the axillary artery and empty into the axillary lymph nodes. The retromammary lymphatics of the two breasts communicate. The object of this rather brief description of the mammary lymphatics is to emphasize the many routes by which metastasis may occur in cases of malignant disease of the breast.

### METHOD OF DISSEMINATION

William McDowell Mastin, Chief Surgeon of the Mobile City Hospital, contends that there is dissemination of cancer cells through the lymphatics, both forward and backward, due no doubt to the embryologic formation of the lymph system and to the fact that the forward flow may be blocked or at least retarded by obstruction in the lymph nodes. In many cases there are, without doubt, open lymph channels leading from above downward in the line of the mammary ridge, which accounts for the frequent metastasis of the abdominal and pelvic viscera. The chief lymph drainage, however, is to the axillary region and upward and inward along the course of the internal mammary artery. Dissemination through the blood stream without direct opening of the blood vessels is disputed by several investigators, who claim that a cancer cell in the blood stream causes thrombosis and subsequent destruction of the cancer cell in the clot. Cancer also disseminates by extension of growth along the

planes of fascia and along the lymph channels and ducts.

ETIOLOGY OF CANCER OF THE BREAST

Science has not yet universally agreed upon any one or any combination of etiological factors in cancer. The results of more recent research in the Liverpool Cancer Institute by W. Blair Bell has thrown much light upon the problem. Bloodgood's theory of chronic irritation has a logical foundation. Combine these ideas with the results of osteopathic research and we have the most satisfactory explanation yet offered. Briefly stated, the epithelial cell is subjected to prolonged irritation due to pressure and irritation from foreign body, pressure and irritation from scar tissue, irritation from toxins of various sources, or any of the many types of irritation which are usually accompanied by impaired circulation resulting in malnutrition to the cell and in oxygen starvation which causes the cell to revert to its embryonal type, that of the trophoblast, retaining only two functions, viz., reproduction and that of obtaining nourishment for itself independent of the rest of the body. The cell gets out from under the body control and becomes an outlaw, reproducing rapidly without regard to function, structure or orderly arrangement.

In the female breast the epithelial cells are subjected to many forms of stimulation and irritation. At puberty marked changes occur. At each menstruation definite changes take place. Temporary hyperemia and sensitiveness due to sexual excitement may have an influence. Lactation produces definite structural and functional changes to be followed by retrogressive changes when lactation ceases. The last change occurs when atrophy and degeneration from senility appear, beginning usually about middle age and seen particularly in the acini and in the interstitial tissue. Normally the epithelial elements gradually disappear to be replaced by fat. The epithelium of the acini may degenerate and choke the ducts, causing dilatation and induration and resulting in pain and lumpiness at about the time of the menopause. Warren describes such a condition as abnormal evolution. The condition develops into a chronic cystic mastitis, the epithelial elements become proliferative, the ducts are compressed or plugged and cysts form. Many pathologists term this a precancerous stage. Not infrequently the history of such a condition precedes cancer. The history of definite bruise or trauma is also frequent.

DIAGNOSIS

The age of the patient has much to do with the diagnosis of a tumor of the breast. Multiple tumors in women under 35 are usually benign. After 35 the probability of malignancy increases. A freely movable tumor in a young woman without attachment to surrounding tissues is doubtless benign. If the tumor is single and firm and slightly infiltrating, it should be regarded with suspicion, particularly in women past 35. Cancer not infrequently occurs in very young women.

Usually there is no pain in the early stages of cancer. A lump is accidentally discovered frequently while bathing. Later pain is almost always present.

Retraction of the nipples, dimpling of the skin, fixation of the mass to the skin or chest wall, ulceration and axillary involvement are late symptoms.

Any lumps in the breast of a woman past 35 should be regarded as cancer until proven otherwise. It is far better to mistake a hundred benign growths for malignant than to mistake one malignant for benign.

LOCATION

It occurs as frequently in one breast as the other but shows a positive predilection for the upper hemisphere and especially the upper and outer quadrant, a situation in near proximity to the axilla. The central areolar region is next in preference and occasionally it develops at the site of an accessory mammary gland.

TREATMENT

We regard any tumor of the breast which requires surgical removal as suspicious until proved otherwise by microscopic examination of a section, therefore insist that all breast tumors be rayed thoroughly before operation. If the tumor is not fixed and there is no palpable glandular involvement, radiation may be limited to the tumor. In such a case a radium pack may be used. If there is any fixation of the tumor or even the slightest glandular involvement, the entire quadrant of the thorax is rayed, including the entire breast, the pectoral region, the axilla, the sub and supraclavicular fossæ and the anterior chest wall just over the median line. In the average size patient we use the following technic: 142 P.K.V., 4.5 Ma., 7mm Al. filter 50 cm. distance for 60 minutes. Such an exposure has never produced erythema, rarely a mild tanning and occasionally depilation. In very heavy patients, the voltage is raised to 148 or 150 P.K.V. In very small patients the voltage may be reduced to 138 or 140 P.K.V. This preliminary raying may be done with radium packs. Much more time is required if the entire quadrant is to be rayed. Fifty mg. of radium properly screened and placed will ray an area about 5 cm. in diameter in from six to eight hours.

Three to five days after the preliminary raying, the patient is operated and the tumor removed. Any palpable glands in the pectoral fold or axilla are also removed. The tissue is examined and if found to be malignant, further radiation is indicated. If the tumor proves to be benign, no further radiation is necessary.

One month after the preliminary raying of a tumor which has been found to be malignant, the first postoperative radiation is given. The technic is essentially the same as outlined above with such changes as are indicated by the position of the growth and the extent of metastasis. Three postoperative treatments are given at intervals of one month, then if there is no evidence of recurrence, three more are given at intervals of three months. The patient returns at intervals of six months for the next four or five years. Further treatment is given only if recurrence takes place or in some cases with a highly malignant growth. In a series of 96 cases in Des Moines covering a period of 10 years, only two patients had recurrence. One, three and one-half years, after operation was easily checked

by local application of radium to the nodules and two or three general applications of x-ray. The other did not return for her second postoperative treatment for over five years, at which time her case had advanced beyond more than temporary relief. The depression resulting from the death of her husband and from the disease resulted in her death in about seven months.

Many discouraging reports concerning the value of x-ray have been published. These are largely due to the use of faulty technic. The use of extremely high voltage, from 200,000 to 300,000, has been abandoned in the treatment of carcinoma of the breast. Often too little radiation is given, or the intervals are too long or too irregular. It is necessary that the physician have the whole-hearted cooperation of the patient and that he is conscientious in his follow up. It is easy in a busy practice to forget these patients and let the months and even years slip by without continuing the treatment or even examining to see that there is no evidence of recurrence. Again, some become discouraged and lose faith because one or two far advanced cases were not completely cured. X-ray cannot perform miracles, but if properly and intelligently applied before it is too late, the mortality due to cancer of the breast can be reduced to a great degree and these patients can be given from five to twenty years of useful life in comfort and happiness.

Operative work when done in conjunction with properly administered x-ray therapy can be much less extensive. It is rarely necessary to remove any part of the pectoral muscles. The axillary dissection need not be so extensive and the function of the arm is not lessened. The postoperative x-ray exposures soften the scar and permit freedom of movement without restriction or pain. Edema of the arm does not result when the axillary glands have not been removed.

When such a course of treatment is carefully carried out, the splendid results obtained take away much of the horror of this dread disease.

Experience during the past twelve years has convinced the writer that x-ray therapy when properly applied has an undisputable value in the treatment of carcinoma of the breast.

2834 Glendale Blvd.

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# *A Symposium on Osteopathic Technic*

PAPERS COLLECTED BY DR. D. L. CLARK, DENVER

## Diagnosis Versus Technic

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Osteopathic technic, as it is generally termed, requires careful study not only of the particular maneuvers or movements, but of much greater importance, the minute mechanism of the anatomy involved.

If I mistake not, some of the members of the profession look upon technic as the main factor in the practice of osteopathy, losing sight of the fact that the minute, detailed, physical diagnosis is the outstanding, most valued factor in the treatment of any diseased condition of the human body. The osteopathic physician must consider seriously this phase of his examination if he expects to render efficient, scientific service. This does not mean that we should not use every appliance or method known to science to aid us in making our diagnosis, but I want to emphasize that the physical examination is the outstanding factor, not only in making our diagnosis, but in the technic we should use.

The slogan, "Find it, fix it and leave it alone," has, I dare say, been misconstrued by many. Knowing Dr. Still as I did, I feel that if he were with us today he would not instruct us to attempt to correct some of the spinal lesions we meet with in our practice without first properly preparing them for correction and giving the right care after the correction had been made. Someone may say that admonition does not accord well with the slogan just repeated. Well, I remember hearing Dr. Still say, too, "Don't be a parrot. God gave you a brain, use it."

In years gone by I have seen osteopathic physicians, including myself, correct bony lesions without any preliminary preparation, causing the patient unnecessary suffering afterward, which led me to make a more careful study of the causes of these bad results and of the preparatory treatment of like cases.

We are not, I believe, paying enough attention to the detailed osteopathic physical examination, missing by this carelessness a clearer conception of the lesions we find and brazenly adjust.

During the last few years I have watched with much interest, and many times with regret, the attitude that many members of the profession have taken concerning this particular phase of osteopathy. Every practicing osteopath should devotedly read and study everything of worth written on this paramount subject — osteopathic technic — and thoughtfully carry on his own independent research in practice.

Let us keep before our minds this fact: The mechanical lesion was the nucleus around which the foundation of osteopathy was built and has been maintained for over fifty years; and it has not been found wanting. It is our duty to make sure that future generations will never lose sight of the fundamentals of osteopathy.

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# Mobilizing the Thorax

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When one stops to consider the relation of the heads of the upper ten ribs with the lateral chain ganglia of the thoracolumbar cord, one becomes increasingly interested in lesions of the thorax. This relation is very intimate. The lateral ganglia rest against the heads of the ribs and are covered by the costal pleura (Gray). Dr. Louisa Burns has shown by her research work that surrounding a lesion area there is a localized relative acidosis, and that this condition of acidosis lessens the capacity of nerve fibres to transmit impulses. Dr. Burns has further shown that nonmedulated fibres are influenced to a much greater degree by such acidosis than are medulated fibres. Thus we have an explanation of the fact that osteopathic lesions show their major disturbance in the sympathetic nerve distributions.

When we remember further that the vasoconstrictor fibres for practically the entire body, including the head and neck, have their origin in the dorsal segments of the spinal cord and that these fibres pass by way of the gangliated cord, we become still further impressed by the importance of the relation of the heads of the ribs.

The origin of the splanchnic nerves is from the fifth to the twelfth dorsal. Here we have the functions of digestion and assimilation under the control of the osteopathic physician to a very marked degree. Dr. John Deason, in his article on "Dietetic Treatment of Anemia," Jour. A. O. A., Nov., 1927, says: "It has been shown experimentally and clinically, that thoracic intervertebral and rib lesions very greatly interfere with normal nutrition. Certainly much could be accomplished by osteopathic adjustive treatment in such cases. Certainly normal digestion and assimilation is as important as food, and we know that adjustment of thoracic lesions greatly assists these processes."

Rib lesions are not of rare occurrence, rather they are extremely common. The usual finding in a typical rib lesion is where the anterior extremity of the rib is depressed, the angle is up, the lower border of the rib is turned outward and the head of the rib is depressed. In such a lesion the point of turning is at the costotransverse articulation. This is the most common type of rib lesion. Of course there may be rib lesions which do not follow this type.

Rib lesions may occur with or without associated lesions of the vertebrae. The reader will remember that the heads of most of the ribs, the exceptions being the first, the tenth, the eleventh, and the twelfth, articulate with the bodies of two vertebrae. This relation of the rib heads is of great importance because of the fact that where the thorax as a unit is under tension or strain as a result of a pelvic tilt, or because of lesions of the lumbar spine, the relation of many or all of the rib head articulations is disturbed. Such lesions of the thorax as a unit are referred to as compensatory or postural lesions. They can only be corrected and maintained in correction by normalizing the conditions which have produced them.

Another frequent finding in studying lesions of the thorax as a unit is rigidity or loss of normal movability and elasticity. This condition most frequently occurs as a result of reflexes, viscerogenic in origin. Because of acute inflammation or marked irritation of viscera, whose sympathetic innervation is associated with the dorsal cord, we find that contractions and contractures develop in the intrinsic and extrinsic muscles of the dorsal spine and in the intercostal muscles. These contracted tissues produce a relative immobilization of the thorax. This rigidity of the thorax as a unit is of greatest importance. It changes the relation of the rib head articulations and is productive of profound disturbance, acting again through the sympathetic nervous system.

Loss of elasticity of the thorax then is an osteopathic lesion. The ribs are drawn together and held. The dorsal vertebrae show abnormally limited motion one with another, and not infrequently we may find segments of several vertebrae in which motion is entirely lost. These areas of impaction constitute a typical finding. There may or may not be associated malalignment.

I wish to point out that in correcting any found lesion it is usually necessary to consider the thorax as a unit. I remember, as will many of the readers of this article, hearing Dr. Still say on numerous occasions, "I therefore fix the third rib on the right side and then I see that all the ribs are freely movable" or, "I therefore fix the fourth dorsal vertebrae and then I see that all the vertebrae down to the sacrum are in proper position."

The functions of the organs contained within the thorax are influenced by the degree of elasticity of their confining cage. Perhaps a majority of people suffer from lack of sufficient oxygen. In children this is often due to obstructions in the upper portion of the respiratory tract. The fault may be that there is a lack of sufficient hemoglobin in the blood to carry the necessary amount of oxygen needed by the tissues of the body to maintain normal metabolism. There may be other factors operating which prevent internal respiration but, next to nasal obstruction, the most frequent cause of insufficient oxygenation is found in an inelastic thorax.

The heart is often embarrassed by lesions of the thorax, particularly of the upper thorax. The accelerator fibres of the heart come from the upper thoracic portion of the cord and pass out with the first four or five thoracic nerves. Many functional disturbances of the heart, including disturbances of rate and rhythm, are caused by lesions affecting this area, particularly lesions of the third, fourth and fifth ribs on the left side.

The venous and lymphatic drainage of the entire body passes into the thorax and the normal respiratory excursions are in a large part responsible for the integrity of the propulsive force which maintains an efficient circulation.

The ribs themselves contain a generous portion of the red bone marrow of the entire body. When bound down by contractions of the intercostal tis-

sues there is a disturbance of the blood supply to the rib and as a result we may have a so-called costogenic anemia.

It is the purpose of this paper to briefly call attention to the importance of lesions of the ribs and particularly to lesions of the thorax as a unit. It is well worth thought and study. Every patient that comes to the osteopathic physician for examination or treatment should have special attention directed to a study of the thorax whether the patient be suffering from an acute disease or some chronic disability. Study the patient's thoracic problem. Correct, in ambulant cases, any lesions that may be causing tension or stress of a compensatory type to show in the thorax. In a very large percentage of cases thoracic lesions are locked against normalization by scoliotic tensions or curves. These tensions must of course be relieved as a primary consideration of treatment. In the treatment of acute diseases pay particular attention to securing motion between each two dorsal vertebrae and at the heads of the ribs. This can be done by the most gentle leverages in cases where the age of the patient or the seriousness of their malady would indicate that they should not be much disturbed.

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# Anatomical Mechanics

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This short paper, together with others to follow from time to time, represents an attempt to record and classify some mechanical features of human anatomy foreign to the thought of some physicians and not generally grouped and taught by standard texts. No claim is made for completeness of any one article nor for the series. The subject matter is Applied Osteopathy and is limited only by human intelligence, or rather, the lack of it.

The present article explains the method of study most adapted to an appreciation of the mechanical factors of anatomy and those disturbances resulting from maladjustments in this field. All practitioners and students of osteopathy go through these phases of learning either consciously or unconsciously. Many stop before completing all the steps and it is the purpose of this article to awaken those and point out the road ahead.

The articles shortly following will describe the distinctly mechanical features of the human machine in *upright equilibrium*, the *many causes of disturbed balance*, their physical *effects* on the *spine, pelvis* and other structures, and a practical method to quickly determine the etiologic factor. Later other areas of the body will be considered.

The knowledge of structure used in the treating room every day is of an entirely different type than that in the usual books on the subject. To explain this statement let us see how anatomy is learned. Let us see how it is "most usefully" learned by an osteopathic student.

The average student of osteopathy when learning anatomy has had no previous training in manipulative technic. Therefore he learns more or less by memorization of a standard text. The picture he gets at first is *flat*. For example: He learns the number of bones in the spine, their prominences, depressions, spines and processes. He does not realize just what is anterior and what posterior until he begins to visualize. Even then, the picture is not clear. There is something lacking, and this element is perspective. It may be pointed out to him or, unaware of it, his mind picture suddenly takes on all dimensions. This is a great step in advance and it is now possible to visualize structure in a living subject as clearly as if the body were transparent.

At this point, the introduction of motion to the picture is overshadowed in importance by few others. To see with the mind's eye *dimensional anatomy in motion* is beautiful. When the subject side bends, the vertebral facets travel their allotted paths, the bodies of the vertebra rotate to the convexity or concavity, the muscles shorten and get thicker on one side and elongate on the opposite. The motions of the spine in walking are imagined. Is this not mechanical physiology?

The next step in training, and the basis of the articles to follow, is the most difficult to instill. It cannot be so easily visualized but must, rather, be sensed. It is this: to see the picture of moving anatomy in perspective doing work; to appreciate and see the lines of stress and strain in each part in supporting, holding, guying, binding, and propelling; to "feel" the weight the vertebral bodies carry; to realize why they crawl out from under their load. In fact, to comprehend that work was there to be done and the vertebral body is the answer. In short, to fully realize the full truth of that wonderful fundamental: "Structure determines function and function determines structure." Not enough here to only know a muscle runs from this point to that, but to sense the work that calls for its existence, determines its size and shape; what geometric triangle it is a third side of; and what it would do to its attachments if contractured.

Palpation and all other phases of manipulative technic are efficient and effective only in proportion to the individual's understanding of mechanical anatomy. As Dr. Still in his Autobiography so aptly stated: "The engineer who would conduct the human body from the abnormal condition which is disease, to the normal which is health and happiness, must *think* and *do* as a mechanic or his effort will be a failure." The very bed rock of osteopathy is mechanical disorder. Other schools of therapy bide their time, pursuing infection as an etiologic factor of inflammation and disease, but only the physician of our school who is true to his fundamentals, realizes how often mechanical irritation is the real factor of lowered resistance that permits infection, how often the infection will disappear upon removal of the mechanical irritation. Only the osteopathic engineer realizes the frequency of inflammatory reactions *with no other basis than mechanical irritation*. It is so easy, especially in the present day, to practice as A. T. Still cautioned us not to: To claw, pull, push and knead the bowels, then with great force send the knee up and down the back and say to the patient, "Return in two days and I will give you a stronger treatment, if this does not give you relief." The patient has paid for good work and gets a manifestation of physical strength and ignorance. Acquaint yourselves with all structures by a deep and

continued study of anatomy, because on this foundation you must stand or fall.

The articles to follow are written to promote a better understanding of anatomy at work, in health and disease. They will be only the passports to the real fundamentals of a great study.

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# Osteopathy and the Neck

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Of all of the regions of the living spine which are manipulated in osteopathic practice, none is more subject to violence than the cervical spine. For it is a fact that much of the neck treatment delivered by osteopathic physicians is careless, superficial and altogether unscientific. Luckily, however, it is confined for the most part to soft-tissue massage which, when it is uncombined with the undirected and questionable tractions and promiscuous joint-crackings affected by some of the more rabid of the brethren, can do comparatively little harm even if it does no good.

It will be the purpose of this writing to point out the actual anatomy and physics of the living cervical spine and to present a rational technic predicated thereupon.

Nothing can here be said of the atlantal articulations, for the arthra which confine the occiput in relation to the first cervical vertebra and the latter in its anatomic contacts with the axis require too extended treatment to be encompassed herein, if justice is to be done those considerations which naturally arise in connection with the osteopathic handling of the neck bones, proper.

The typical cervical spine comprises all of the cervical vertebrae except the first, and comprehends their every articulation save that between the axis and the atlas.

But one proper and wholly characteristic movement inheres in a typical cervical articulation: unilateral rotation-sidebending. Some flexion (forward bending) may be demonstrated, but it is not an essentially distinctive movement for the reason that it is so entirely opposed to the natural anatomic inclination of the region. And extension (backward bending), as a clinically demonstrable movement, does not exist, since its potentialities have been almost entirely consumed in the construction of the curvature of this portion of the spine.

Formerly it was the practice of a majority of osteopathic physicians to ascribe from four to eight distinct varieties of motion to a typical cervical joint. Laboratory findings, however, do not bear out such ascriptions. In fact, when most of them are critically analyzed in the revealing light of clinical experimentation, their essential falsity and utter untenability are clearly and conclusively shown.

All movements in this area are limited by the ligaments involved directly in the defining of the articulations as well as by the influence of all other attached soft tissues. Their ultimate definition is accomplished by contact of the bony parts adjacent to the articular specialization.

One typical cervical vertebra moves upon another characteristically into unilateral sidebending-rotation and into no other direction. This lateral deflection is determined and modified by the close anatomic relationship which exists between the transverse process of the initiate vertebra at rest and the front of the superior articular process of the vertebra upon which it moves. In the dried specimen approximately three-sixteenths of an inch intervenes between them. This interval is reduced to less than one-sixteenth of an inch when the soft tissues are in place in the living or recent state. Life-tone in these tissues further reduces the space, normally.

Thus, when a cervical vertebra begins its normal lateral excursion, the transverse process upon the side to which it inclines moves back and down in direct opposition to the forward and upward movement of that of the other side; and by such declination immediately locks itself against the anterior aspect of the superior articular process of the vertebra upon which it is moving, which lies directly behind it. This bony contact at once changes the character of motion in the arthrom from bilateral to unilateral sidebending-rotation, for it causes an immediate transfer of the axis of motion, which is oblique at first and perpendicular to the center of a plane passed through the inferior borders of the articular planes at the same angle to the horizontal as characterizes those planes, to an arbitrary position nearly parallel to its initial inclination but passed through the point of contact between the aforementioned transverse process and superior articular process.

Forward-bending of a typical cervical articulation is a fairly well defined movement. Its axis of motion is transverse and is drawn from the point at which the under-margin of one pedicle coincides with the posterolateral aspect of the body to which it is joined to a similar point on the opposite side, both referring to the structures of the initiate vertebra.

Extension is not well marked, nor is it clinically palpable in a single normal living articulation from rest. There is, to be sure, a slight amount of backward bending possible in each cervical arthron; but it is impossible to evaluate so slight a movement in a single joint; therefore any extension of the cervical spine must be attributed to the region as a whole and not ascribed to any individual juncture.

Thus but two clinical types of lesion present themselves for study in this connection; and one of them is extremely rare. They are: the common unilateral sidebending-rotation lesion and an occasional flexion or forward-bending lesion.

As is the case elsewhere, accessible bony landmark must be utilized for diagnostic purposes. The cervical vertebrae offer several such palpable prominences. Most of them, however, are osteopathically useless, either because of their asymmetry or by reason of their inaccessibility.

The spinous processes have no regular sequence and are too irregular to be of any value for prac-

tical reference. The transverse processes, while they are more symmetrical, are so deeply buried beneath the lateral cervical muscles as to render their accurate palpation both difficult and extremely painful to the patient.

Some technicians refer to the superior articular processes, which they essay to palpate through the front of the neck. This practice, however, is dangerous because of the possibility of injury resulting from it to the important and vulnerable structures which lie in front and close to them; and it is in no sense reliable because of the presence, immediately in front and above them, of the transverse processes of the vertebræ next above in anatomic sequence.

Thus only the inferior articular processes remain. The osteopathic diagnostician must rely upon an estimation of their mobile relationships for all or practically all of his information as to the functional states of the typical cervical articulations. Luckily, they lie on either side of the midline in regular sequence, equidistant from the master sagittal plane and in the same horizontal plane. And their posterior aspects are easily palpable.

To find them, the exploring fingers should seek first the natural grooves between the posterior spinal and the posterolateral muscles of the neck. Then, by a careful insinuation of those fingers between these muscle masses and toward the midline, they are made to come in distinct contact with the dorsal aspects of the inferior articular processes.

When the cervical spine is normally movable and wholly at rest, these processes occur at precisely the same level, as has already been said, for each vertebra; and they are exactly equidistant from the midline. Each pair is placed in regular order with reference to the pair above and the pair below.

In unilateral sidebending-rotation the inferior articular process on the side to which the vertebra is carried is so little disturbed in its sequential relations that it feels normal, or nearly normal, to the investigating finger. It is, to be sure, carried very slightly down and back in the first instance; but this excursion is almost immediately arrested by contact between the transverse process of its vertebra and the superior articular process of the vertebra upon which it is moving. And thereupon it moves upward and forward again into nearly normal position as its vertebra swings wholly upon the aforementioned axis-contact to the same side. Thus its position in series is never materially altered.

On the other side, however, the inferior process is carried freely upward and forward. Its lower border swings around laterally as the movement progresses and becomes rapidly palpable on the side away from which its vertebra is moving. The interval between this process and the one immediately below it is thus quite markedly increased.

If, perchance, a forward-bending lesion is encountered, both inferior articular processes are found to be immobilized upward and forward upon the superior articular processes with which they articulate; and they are somewhat more prominent to touch. The intervals between them and the pair next below are considerably increased, also.

In both instances, successful diagnosis begins with an accurate determination of the functional relationships of the inferior articular processes involved and ends with a careful and precise estimation of the amount or movement present in the suspected articulation. The first part of the operation is of no value unless the latter also obtains; for the only real test of an osteopathic lesion is motion.

Anomalous development of landmarks must also be constantly borne in mind and checked against all physical findings before final conclusions are arrived at. It takes a little practice to develop proficiency in these matters. But all of these touch-pictures may be accurately elicited if they are carefully sought.

Inasmuch as the grand principle of correction in osteopathy is restoration of normal movement within lesioned joints, any technic is good technic in the adjustment of the cervical spine which holds fixed and immobile the lower of the two vertebræ involved by the lesion and which thereafter moves the upper osseous segment back along the identical pathway which it traversed into lesion, thereby restoring normal motion to the affected joint and effectually eradicating the lesion.

Two methods for adjusting cervical lesions may properly be outlined in this connection. The first is applied with the patient supine, and may be termed a "table movement."

After the initial examination, which is always made with the patient seated, if possible, because the cervical spine is most normally inclined in the erect position, the patient is instructed to lie absolutely relaxed upon his back. The physician takes his place at the head of the table and proceeds to confirm his prior diagnosis. When he has well in mind the condition or conditions with which he must deal, he places the hand upon the side to which the vertebra in lesion is inclined against the transverse process of the one just below it so that the web between thumb and forefinger catches it and the spinous process of that vertebra firmly along its margin. The patient is then instructed or beguiled into complete relaxation. The other hand is placed beneath the occiput to support the head and effectually to grasp the lever handle by which adjustive force is administered.

Inasmuch as the requisite preface for any corrective maneuver in osteopathy is to exaggerate the lesion, the head is first rotated and sidebent further toward the side of the lesion. Then, when the articular surfaces are potentially "freed up" and made ready for adjustive movement, the head is brought across the midline and carefully but sharply rotated and sidebent to the opposite side. After a lever has thus been secured and all slack taken up to the point of desirable mechanical tension, a slight further inclination of the head and neck to that side, synchronously opposed by a counter thrust forward on the same side by the other hand, will immediately cause retraction of the embarrassed articular contact along its anatomic

plane of motion and effect an instant correction of the lesion.

This type of technic can be applied effectively to any of the typical cervical joints.

The other method is also quite as effectual if properly utilized. It may be termed "stool technic" inasmuch as the patient is seated upon a low stool during its progress. The physician stands to the side of the lesion. The hand on that side applies the adjustive force and the other is used to deliver counter force. Care must be taken at all times, in the employment of this maneuver, to carry the articulation along the natural planes of its movement. And in this connection it must be remembered that those planes have an increasing tendency toward the perpendicular the lower down they occur. Otherwise the indications and procedures are the same as those employed in the table technic described above.

In the rare event of a flexion lesion, a simple locking of the cervical spine in extension and the application of a slight further backward bending will be sufficient to adjust the difficulty, provided the patient interposes no conscious opposition to the correction.

It will be understood, of course, that no attempt has been made herein to describe in detail each step in the process of correction, for the main concern of this writing has been to place proper emphasis upon that accurate anatomic and physical knowledge which the physician must possess if he is effectually to deal with the osteopathology he encountered in the necks of his patients. For it is a fact that once the physician fully appreciates the living properties of the joints he deals with professionally, the exact method of his technical approach will suggest itself readily.

No technician can go far wrong if he keeps constantly in mind the limitations imposed upon the living human neck by the conformations of the bones upon which that neck is built and by the correlated action of the muscles which move it and the ligaments which define those movements.

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# Finger Technic and Finger Surgery of the Eye, Ear, Nose and Throat

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If the osteopathic profession had nothing to offer beyond what medical men are doing in the eye, ear, nose, and throat there would be no particular grounds for the existence of osteopathic specialists in this department. It has been proved that the osteopath has much to offer in finger technic and surgery and in the treatment of head diseases. These methods combined with general osteopathic treatment, dietetics and surgery give the osteopathic specialist a deciding step in advance of old methods.

## THE EYE

This discussion is not in the line of diagnosis, and when finger technic for treatment of eye diseases is outlined in its various phases, it is taken for granted that a diagnosis has been or can be made before any treatment is begun. Much good can be done for the general run of eye diseases by finger technic.

1. *The cerebro-bulbo-spinol-sympathetic-ciliary arc.*—This term is formidable but readily understood by the osteopathic physician. Research has proved that through this arc lesions of the spine, tensions of tissues, injuries, inflammations or pressure from any cause on this arc or any part of the fibres alter circulation to the eyeball and orbit. It also has its influence upon lymphatic drainage from the orbit.

The ciliary muscle is readily affected so that the pupil is modified in its size and integrity. This is one of the primary and deep causes of eye diseases. It follows, then, that lesions from the fourth dorsal to the occiput in the spine and soft tissues have to do primarily with many eye troubles.

Manipulation and correction of the fourth dorsal to the occiput has much to do in the proper treatment of diseases of the eye by the eye, ear nose and throat specialist.

2. *The orbit.*—Treatment of these structures by finger technic has an important place.

(a) *The lids.* Various troubles of the lids and some troubles of the general structures of the orbit and bulb might be readily influenced by thorough stretching of the lids by finger technic. With the patient lying on the table have him look downward. For the right eye stand to the right side of the patient. Have the right forefinger well lubricated with sterile vaseline. With the left hand raise the upper lid of the right eye of the patient. Introduce the right forefinger, lubricated, under the lid. Avoid touching the cornea. This maneouver can be done with very little, if any, pain. Grasp the lid by closing the thumb of the right hand on the outside of the lid. The effect of introducing the finger under the lid stretches it considerably, but at this point the finger and thumb may be moved along toward the inner and outer canthi, effecting thorough stretching and massaging of the lid.

If there are granules, the massaging may be strong enough to crush the granules to bring about a decided reaction.

This maneuver may be used to some extent on the lower lid. In many cases it will be found necessary to use a local anesthetic solution in the eye before this technic is used. A 1% butyn solution, or a 2 to 4% cocaine solution in distilled water, one drop three times at three minute intervals will produce sufficient anesthesia.

Another treatment that is useful in stretching

the lids is done by an instrument called the Ruddy Third Finger. This instrument can be used on the outside of the lids and by pushing them deep into the orbit above the eyeball, also below and at the sides. The structures of the orbit may be considerably manipulated, compressed, and stretched by bulbar treatment.

With the patient's eyes closed the middle finger of the left hand may be laid gently on the closed eyes like a pleximeter and the middle finger of the right hand can be used like a plexor. Gentle tipping of the eyeball will stimulate the structures of the orbit, and often jar the circulation of the blood and lymph through slight obstructions. These manipulations of the eye should be done with proper discretion and diagnosis.

### THE NOSE

There has been much discussion for and against finger technic applied to the nose. There was so much crude work done in intranasal finger work there became quite a reaction against it and many osteopaths, even some of the specialists, ceased to use it. Consequently, the development of intranasal technic was impeded and delayed by the abuse of the work by the ill informed.

1. *External manipulation of the nose.*—Treatment of nasal troubles by finger technic on the outside does not accomplish anything very definite, but there are some beneficial effects. Treatment of the fifth cranial nerve terminals at their exit on the face results in some stimulation which has its influence on sensation, nutrition, secretion and vasomotor influences. Hard pressure on the sides of the nose, manipulation depressing the end of the nose, also lifting it to the fullest extent helps to influence circulation and increase functional activity.

2. *Intranasal finger technic.*—Hay fever, acute colds, chronic catarrh, hypertrophic rhinitis, and many other pathologies of the nose may be beneficially influenced by intranasal technic, properly applied.

As Dr. Deason says, "A number ten finger should never be introduced into a number five nose." In other words, use common sense in any of your technic. The small finger of the right hand should be thoroughly lubricated, or better still, a large gob of K. Y. as large as an English walnut might be deposited on the upper lip at the opening of the nose. The little finger should be introduced into the nose through this lubricant, pushing a good supply of it ahead of the finger. The nose should be slightly lifted with the left hand so that the nostril will be opened as wide as possible. Of course, the nail of the finger to be introduced should be trimmed shorter than the cushion of the finger. The finger should be introduced very slowly and worked into the nostril with the finger nail toward the septum. By gradual dilatation of the nostril the finger can be introduced in most noses surprisingly deep. In many large noses that are not hypersensitive the little finger can be entered to the fullest extent without very much discomfort to the patient. At no time should the patient be made extremely uncomfortable, even if the finger is not introduced beyond the first joint, or even to the first joint.

When one side is done the operation should be repeated on the other side. One who has not been following this work will be surprised as to the amount of relief it will give almost immediately in acute colds, attacks of hay fever. It brings about better ventilation, drainage, and comfort in the other pathological conditions which I have mentioned. It may be repeated daily or twice a week according to the circumstances.

### THE EAR

For many years the osteopathic profession has been developing some extremely important and beneficial finger technic in treating the ear. Such men as Ruddy, Edwards, Deason, and numbers of others, have impressed themselves on the profession by helping to develop osteopathic ear technic. The old methods of treating deafness followed by the medical profession from the time of Valsava and Politzer inflation, has made comparatively little advancement. In recent years it is being conceded by many ear specialists that the old methods can be and have been improved upon.

Finger technic applied to the ear has a field quite distinct in the osteopathic profession. It is certainly a definite addition and advancement over old otological methods.

1. *Technic as applied to the external ear.*—This means manipulation of the pina and the structures about it, the external auditory canal, with a view to influencing the fluids and forces to the middle ear.

Dr. C. Earl Miller has recently put forth a particular manipulation of taking hold of the pina at the lower part including the lobe and with a sharp pull upward and slightly forward he gets a distinct click at the junction of the cartilaginous portion and the bone. The effect of this particular maneuver sometimes seems to be immediately salutary.

For many years osteopathic physicians and quite a few medical specialists have been introducing their small finger into the external auditory canal as far as was comfortable and by deep movement up and down, forward and backward, and circling, the ear can be made to feel real warm and a comfortable glow through all of the structures experienced. This action seems to help the circulation, both lymph and blood, in the region of the ear.

Another maneuver I first saw demonstrated by Dr. Edwards, later modified to some extent by Muncie, is a thorough and complete dilatation of the external auditory canal and an effort made to influence the drumhead and chain of ossicles, the pressure in the middle ear, and even the structures of the inner ear. Stand at the head of the table and with the left hand reach over and grasp the right pina. The small finger of the right hand, moistened or lubricated, should be introduced into the external auditory canal. When the finger has gone as far as it apparently will, by maneuvering the pina with the left hand and continuing to insinuate the right little finger into the canal deeper and deeper, one is often surprised how far the finger will go into the external auditory canal. This not only dilates the canal but pushes the drumhead by air compres-

sion deeply inward. The influence modifies the pressure in the middle ear. The chain of bones transmits the impulse to the oval window and from there the pressure is transmitted to the inner ear. By slight movements of the finger in the canal these structures can be manipulated and a very wholesome influence brought about in catarrh and other pathological conditions of the middle ear.

2. *Technic of the ear in the nasopharynx.* The technic of the nose given has its bearing on ear conditions. Finger technic applied to the nasopharyngeal structures pertaining to the ear is perhaps the most important of anything that can be done to the ear for the remedy of deafness. It is necessary in this region for *some finger surgery.* Adenoids, lymphoid vegetations, adhesions, and lymphoid tissues in the fossa Rosenmueller, adhesions and lymph nodules about the opening of the eustachian tubes, enlarged and water logged posterior extremities of the middle turbinated bodies, all these pathological conditions must be removed, and much of it is being done by finger surgery. There will be some bleeding. There will be some denudations but if properly handled the normalization of structures may be brought about by finger surgery in a very remarkable way. Special study should be done to handle these conditions by finger surgery in this region, and also in many cases where finger surgery is not required. Finger technic may be used in the normalization of the eustachian tube. Finger technic is applied chiefly to the eustachian tube by introducing the forefinger into the nasopharynx and, as far as possible, entering the eustachian tube between its lips.

With a great variety of eustachian tubes one who has put his finger up there only a few times cannot be a judge as to the amount and extent of work that can be done. Nor can he judge as to how far the finger will enter the opening of the eustachian tube in some cases. The tube should be not only dilated by finger technic, it should be lifted. If pressure is slowly exerted in the mouth of the tube while the patient gags and the pharyngeal muscles are in action the finger can be insinuated gradually further and further into the opening of the tube. Both tubes can be reached by the forefinger of either hand. As a general rule it is better to use the cross technic.

With the doctor standing at the head of the patient, the right forefinger is introduced and enters the left eustachian tube. Afterward the left forefinger is put in the nasopharynx and enters the right eustachian tube.

Finger technic in this region, if skillfully applied, can be done to great advantage by even the general practitioner. Much of this work, however, especially the finger surgery, should be left to the specialist who is devoting his time to it. The finger technic applied to the ear in this region practically covers the finger technic to the nasopharynx.

THE PHARYNX AND LARYNX

1. *External technic.*—External finger technic applied to the throat is included in cervical technic. It is a matter of skill, especially on the various structures, including the hyoid bone and soft structures of the throat along with the cervical spine. Without further comment I will leave this to the study, skill and initiative of the individual physician.

2. *Internal technic of the pharynx and larynx.*—The finger technic applied to the throat is especially adaptable to colds, catarrh, chronic infections, tensions and obstructions. One or two fingers may be readily introduced into the throat. If the tonsils have pus in them they can be squeezed and compressed and thorough manipulation be brought about. Raise it up, press it down, pull it forward, and press it backward. The soft palate may be stretched to great advantage. The finger or fingers may be hooked over the tongue, just in front of the epiglottis. All the linqua region may be thoroughly stretched by pulling forward directly then to the sides.

The forefinger may even go beyond the pharynx over the epiglottis into the upper part of the larynx. These structures should be stretched and manipulated. Pus pockets, infections, adhesions and other pathology may be influenced very favorably. Circulation is better established, lymph drainage is brought about, and a great deal of good done to the structures.

A very wholesome effect may be brought about in asthmatic conditions, bronchiectasis, chronic bronchitis, speaker's sore throat, hoarseness, croup, whooping cough, colds and catarrh.

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# Subdiaphragmatic Drainage*

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Osteopathy has shown the importance of the stagnation of the lymph and venous blood in the life of the cell as a forerunner of actual disease. Dr. Louisa Burns has demonstrated that a localized acidosis with stagnation of the lymph immediately surrounding the individual cells, both in the neighborhood of the lesion and in the organ supplied with nerves from the nerve centers at the site of the lesion, is the first tissue change recognizable as the result of perverted structural relationships.

Vital statistics indicate that by far the greater number of disorders which result fatally have their origin in the region just beneath the diaphragm. The five-inch zone having for its upper border the diaphragm has been called the "death belt"—by reason of the fact that this region is so frequently the source of a fatal disorder.

Within this "zone" may be found the stomach, the duodenum, the liver, the gall-bladder, the gall ducts, the pancreas, the spleen, the kidneys, the solar plexus, the super-renal capsules, etc. Imperfect drainage of these organs, either lymphatic or venous or both, cannot but be fruitful in disorders —which if allowed to go uncorrected, will and do lead to fatal disease.

Aside from the primary bony lesion which it is unnecessary to discuss at this time, the action of the diaphragm is quite evidently the greatest single factor in influencing the venous and lymphatic drainage of this area.

Many of our osteopathic investigators have

*Delivered at the thirty-first annual convention of the A. O. A., Denver 1927.

given considerable thought to this area. We are indebted to Dr. C. P. McConnell for his observations on "doming the diaphragm"; to Dr. Earl Miller for the development of the technic for the "lymphatic pump"; to Dr. Wm. West for his studies on the influence of gravity in this area and to Dr. F. P. Millard for his general researches on the lymphatics. Each of these doctors have contributed to our better understanding of the factors and forces involved in the drainage of the abdomen. Every member of the profession in practice, I am sure, has some time employed certain methods to specifically drain this "death belt" area.

The following method I have found highly efficient in securing the desired drainage of venous blood and lymph from the subdiaphragmatic region. The technic is extremely simple. One advantage is that the patient does the actual work without effort on the part of the physician other than that of giving instructions and seeing that the details of the technic are successfully carried out. Also, the patient can repeat the process frequently in the interval between osteopathic treatments.

The patient lies horizontally upon the back in a comfortable position, is instructed to exhale completely, then instead of inhaling air he is asked to draw in the abdomen by contracting the diaphragm and drawing in the abdominal muscles, while at the same time the upper respiratory openings remain open to prevent too strong negative pressure within the thorax. Sometimes the extreme of negative pressure is desired, and in such case the upper openings of the air passages—the nose or epiglottis—may be closed, yet for ordinary conditions the openings may remain open. The patient continues to hold the diaphragm elevated and the abdominal muscles tensed for about five seconds, or until all sensation of movement within the abdomen has ceased. Then, while simply holding the diaphragm thus elevated, the patient fills the upper lobes of the lungs with air, being careful not to inhale so completely as to in any manner or degree lower the diaphragm during the inhalation process.

This gives a positive pressure in the abdomen from the contraction of the abdominal muscles, a negative pressure upward by the elevation of the diaphragm, while a second upward negative pressure is provided by the expansion of the upper thorax as the upper lobes are filled—which evidently is very effective in its influence on the thoracic duct. Accompanying this respiratory technic or exercise, any stagnant venous blood or lymph is forced along the natural channels, draining away any excess that may be the initial pathological change preceding actual tissue change. This procedure is to be repeated as indicated from five to six times in succession four or five times per day.

The scope of the application of this procedure includes all of the disorders to which the organs in this region are subject, where congestion and venous and lymphatic stasis are present, and may be applied in disorders lower in the abdomen such as appendicitis (before gangrene or pus is present), hemorrhoids, pelvic congestions, constipation, enteritis, etc. Apparently there are no contraindications—unless possibly some forms of gross pathology. Its usefulness has a very wide range of application—in fact, I know of no single procedure which is so serviceable as a prophylactic or therapeutic measure as that of securing adequate venous and lymph drainage for the "death belt area."

Strickland Bldg.

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# The Trend Toward Osteopathy*

RAY G. HULBURT, D.O.

II.

Osteopathy is vastly more than the crude mechanical therapies which mankind has used so long—perhaps always. It is so much more and so much superior that since its inception osteopathy has simply gone forward independently almost without even realizing that there had been other mechanical methods. Yet now that such a strong trend toward osteopathy is showing itself in the practice and in the literature of the drug doctors, it may be of interest to know what others have done.

### MANUAL THERAPY THOUSANDS OF YEARS OLD

Manual methods of treating the human body seem to have been known in all lands and in nearly all times. The primitive peoples with whom civilized men have lately come in contact, use such methods, and early records of ancient civilizations tell of their widespread use thousands of years ago.

The natives of Conga in Oceanica are said[22] to have had three different kinds of treatment, toogitoogi, mili and fota, used according to indications on sufferers from fatigue, headache, etc. The lomilomi of the Hawaiians is even better known.[23] Details of this treatment as described by a traveler[24] of sixty years ago, were given by J. S. Amussen[25] in a recent number of the JOURNAL A. O. A.

Kermit Roosevelt[26] has said of the Kashmirs of today: "They practiced both massage and osteopathy upon each other for every ailment from a headache to a stomach ache. To cure this latter Suydam saw one of the men lying face down on the ground while the others beat his arms and legs in a truly alarming fashion."

It is believed by some[27] that the Susruta of the Hindus, also used by the Brahmins, is the oldest written description of such physical measures. The majority of writers, however, seem to think that the Chinese Cong Fou of the Tao-See is older. This is said[28] to date back to Hoang-Fi, 2698 B. C.

Some believe that the Greeks secured their knowledge of the subject from the Hindus and Chinese. Homer in his Odyssey, about 1000 B. C., notes that rubbing and anointing were used for their invigorating effects.

It is said[29] that Herodicus in the fifth century B. C., first laid down the principles of rational mechanical methods of treatment. At any rate, he advocated exercises for the treatment of diseases and compelled his patients to have their bodies rubbed. Herodotus, 484 B. C., was among the first of the

*The first instalment of this article appeared in the July Journal.

Greeks to refer to the manner of giving massage. Other advocates of such methods were Plato, Socrates and Hippocrates. Asclepiades, 128-56 B. C., used massage in connection with active and passive movement.

Arrian's book, "Cynegeticus," is said by Schreiber[29] to have advised stretching in connection with massage, which in conjunction with relaxation induced the activity of the lymph current. Graham[30] quotes him as giving directions for massaging a dog "and . . . lift her up by the tail and having given her a stretching, let her go, and she will shake herself when let go and show that she liked the treatment."

The Egyptians and the Persians also had their methods of physical treatment. The Egyptian priests are reported[31] to have used some manipulations in the form of kneading and friction for rheumatic pains, neuralgias and swellings.

In the sixteenth century, a Japanese book, "Sau-Tsai-Tou-Hoei," told of many methods of massage.

### THE CONG-FOU OF THE CHINESE

Before proceeding to more modern authorities and methods, it may be interesting to look in some detail into what is generally believed to be the oldest method of mechanical treatment described in books, the Cong-Fou. A missionary, P. Arniot, made a study of the subject, and some of the ancient writings were translated into French[32] about 100 years ago.

According to the practitioners of Cong-Fou, gymnastics, by preventing stagnation, produced an even and harmonious movement of the fluids in the human body, which is necessary to health. Not only did they use gymnastics to preserve health, but they also had knowledge of their therapeutic effects.[31]

There are said[27] to have been three essentials: (A) Various positions of the body; (B) rules for varying these attitudes; (C) during these attitudes, management of the respiration.

In their writings, the priests described different modes of stretching, holding, raising, falling, bending and extending, separating and approaching the arms and legs in the standing, sitting and lying positions, in a prodigious variety of attitudes. There were also instructions for breathing in peculiar methods, to be chosen and combined according to the disease being treated.

These methods were based on certain beliefs as to the relation of air to the circulation, and of the circulation to the body.

It was thought that if more air is inspired than is expired or the contrary, its volume should increase or diminish the total mass of the body fluids, and recruit or curtail the blood of the lungs; and that if the respiration is hastened or retarded, the result should be a quickening or slowing of the heart's action, so that both the mode of the circulation in the different parts of the body and the volume of the fluids of the body are controlled by the respiration.

Since they regarded the circulation as being opposed by gravity and by friction in the vessels, it was evident to them that the degree in which the body is straight or bent, lying or raised, the hands and feet stretched or folded, raised, lowered or bent, ought in the hydraulic mechanism to effect a physical change, to retard or to facilitate the circulation.

It would appear then that the Chinese were acquainted at an early day with the circulation of the blood, and tolerably versed in the mechanism of the body, even though their reasoning as to functions and effects may appear fallacious.

### NATURE'S POWER—THE SWEDISH SYSTEM

Passing over a period of thousands of years, we come to the father of English medicine, Thomas Sydenham (1624-89), who is said to have left the routine practice and based his own on the theory that there is in Nature a recuperative power which ought to be aided and not opposed.[33] This was a step in the right direction, whether definitely linked with mechanical therapy or not. Francis Fuller, another English physician, published a book called Medicina Gymnastica in 1704.

On the continent, T. H. Ling was the founder of the Swedish system of gymnastics, sometimes called kinesitherapy or kinesiology, the most scientific system of physical therapy up to that time. He was head of the Royal Central Gymnastic Institute of Stockholm, opened in 1813. In this brief survey there is not time to go into details as to the methods of this system of movement cure, but its scope was and still is extensive.

### THE SPINE AND DISEASE

By this time, or not long after, observers were beginning to note that there was some relation, which evidently none of them understood, between the spine and disease. Mr. R. P. Player,[34] writing of spinal disease, said "commonly the function of every organ is impaired whose nerves originate near the seat of the disorder . . . In a great number of diseases, morbid symptoms may be discovered about the origins of the nerves which proceed to the affected parts, or of those spinal branches which unite with them; and that if the spine be examined, more or less pain will commonly be felt by the patient on the application of pressure about or between those vertebræ from which such nerves emerge. . . . The success which has attended the employment of topical applications to the tender parts about the vertebræ, appears to indicate that the cause may exist there. . . . Patients are surprised at the discovery of tenderness in a part of whose implication in disease they had not the slightest suspicion."

Abernethy[35] (1825) was inclined to blame everything he found on digestive troubles, but mentions one case in which he says: "I struck with my finger the spinous process of each lumbar vertebra, and upon touching one in particular, the patient complained of great pain; but pressure on the contiguous vertebræ also caused much uneasiness." He thought that there was disease in the spine, but later decided that the condition was rather incidental to a digestive trouble. He treated the affected part of the spine with blisters and a dressing of savine cerate and with rest, and the patient got much better.

### THE REFLEXES GET SOME BLAME

Burns[36] (1828) called attention not only to the effect of reflexes from the digestive tract on the fe-

male generative system, but to the fact that "the state of the spinal cord in the sacral region is also a frequent cause of discharge . . . capable of producing pain in the uterine organs and pelvic cavity . . . this state seldom exists without pain in the lower part of the back, and tenderness on pressing the sacrum." (p. 76.)

"There is a state productive of uneasiness in the uterine region," he says, "accompanied with the sensation of bearing down, arising rather from an affection of the origin of the pelvic nerves than from any inflammation or displacement of the womb itself." (p. 92.)

He calls attention also to spinal affections in connection with pain in the rectum and bladder. "The top of the sacrum is tender to the touch, and generally aches at all times. There is usually numbness or pain, with great feebleness, in the lower extremities, and sometimes tenderness on pressing the skin of the thigh and leg. The patient cannot walk easily, nor stand without suffering." It is brought on by too great exertion, he says, especially during menstruation, or by cold or other less evident causes.

Brown[37] (1828) told of a girl of seventeen, in good health, with a gnawing bruised pain for more than a year in a spot below the left breast, increased by fatigue, relieved by lying horizontal. It was not sore to the touch. She had been treated for rheumatism, bled and blistered. He found the spine normal, but "when pressure is made on it, about the seventh or eighth dorsal vertebra, she complains of a considerable feeling of tenderness, amounting even to pain."

Darwell[38] (1829) remarked that, "Disorders attacking the origins of nerves or their attachment to the central mass, whether this be the brain or spinal cord, always disturb the functions of the organs to which such nerves are destined." He told of cases in which palpitation of the heart formed the prominent symptom, relieved by the application of blisters to the spine after failure of the usual remedies.

Many women, in Darwell's opinion, were unjustly accused of indolence. "In this complaint, tenderness in the portion of the vertebral column which corresponds to the origin of affected nerves is generally in a striking and unequivocal manner evinced by pressure . . ."

### THE SYMPATHETIC SYSTEM COMES IN

In 1830[39] Teale wrote:

Many nervous affections of the viscera ought not to be considered as diseases of the viscera themselves, but as symptomatic of disease in those particular ganglia whence their nerves are derived.

. . . I have for a few years been in the habit of treating many of these nervous affections as diseases of some portion of the spinal marrow or ganglia; and have been still further confirmed in my opinion by the frequent and almost uniform co-existence of tenderness on pressing some portion of the vertebral column, and the circumstance of the tender portion of the spine being in the particular situation where the nerves of the affected part originate.

He found also that a stiff neck or impaired actions of the muscles moving the head, frequently attend neuralgic affections of the scalp, and that lower cervical trouble affects the arms, shoulders, and the integument of the upper part of the thorax, while "the principal symptoms resulting from irritation of the ganglia of the sympathetic are to be found in the organs which derive their nerves from this source." In such disease of the ganglia, he said, tenderness is usually found on pressure on the spine, and the tender portion invariably corresponds with the symptoms.

### THE GRIFFIN BROTHERS STUDY THE SPINE

In 1834, two English brothers, William and Daniel Griffin,[40] surgeons, published a book in which they said, among other things:

It will appear . . . how very probable it is that the investigation of spinal affections may furnish us with new means of forming a correct diagnosis in diseases in which it has heretofore been difficult or impossible. Spinal tenderness . . . is almost an invariable attendant on the diseases of irritation . . .

Disorders or irritations affecting the origins of nerves, or their attachments to the brain or spinal cord, always disturb the functions of the organs to which such nerves are destined . . .

Remarkable instances will be given of the inutility of all symptomatic treatment in some [complaints of young females] and the successful and almost magical influence of the remedial means, when once directed to the spine . . .

[Spinal tenderness] is a symptom so constantly present, and sometimes to so acute a degree, that it seems wonderful it should have been so long unobserved or undervalued. . . . This symptom is, in fact, usually altogether overlooked in general practice. The patient unfortunately seldom complains of the back, and most frequently does not know that it is in the slightest degree affected.

They reported finding spinal tenderness in numerous cases of neuralgia, in many of paralysis, and in all that class of complaints called mimosa which came under their notice, and were finally driven to the conclusion that the greater number of these disorders either wholly depend on some affection of the spinal column or are strangely and importantly connected with it.

Many cases of spinal tenderness, they found, were evidently produced by, and dependent on, intestinal, dental or other affections.

### THEORY OF DISLOCATIONS AND NERVE PRESSURE

Riadore[41] (1842) had more definite theories as to causes and effects of spinal tenderness, and what happens to the spinal nerves. His writings have quite a modern sound, though so far as they relate to spinal dislocations and bony pressure on nerves they are not exactly in line with osteopathic theories. He wrote:

Some anatomists have considered that the . . . spinal column . . . is too strongly fixed together to be dislocated or to receive impression of . . . physical agents; but experience has amply proved the fallacy of this opinion; for the whole are liable to the same accidents . . . as . . . all the bones and joints of the frame.

The spinal column then consists of twenty-four bones and joints. . . . From each of these bones, on the right and left side, issues a pair of nerves . . . originating in the spinal marrow and diverging . . . to nearly every organ . . . certainly directly or indirectly controlling the functions of the whole . . . for none of the cerebral or brain nerves, with the exception of the 8th pair, and the great sympathetic, descend below the throat. (p. 3.)

The functions of the assimilating organs require the influence of the whole brain and spinal marrow through the ganglionic system of nerves; and if any organ is deficiently supplied with nervous energy or of blood, its functions immediately, and sooner or later its structure, become deranged; therefore it is in vain to attempt to restore the digestive organs, for example, by means directed to them alone, when the cause of failure is in a distant part; consequently, we must try to give vigor to

the central parts of the nervous system, in which the immediate causes exist. (p. 4.)

Every organ and muscle in the body is connected and dependent more or less upon the spinal nerves. . . . We cannot be otherwise than prepared to hear of a lengthened catalog of maladies which are either engendered, continued or the consequence of either spinal irritation, inflammation with or without curvatures, or caries of the spinal column. . . . (p. 7.)

CAREFUL OBSERVATION AND PRACTICE NEEDED

Incurvation . . . is occasionally so slight that none but the well practiced eye can readily detect it . . . If overlooked the patient's affliction will continue to baffle all remedies, particularly when one or two vertebrae may be pressing injuriously upon either the anterior or the posterior root of some nerve or upon their origin in the spinal marrow. (p. 8.)

Medical men in general . . . seldom or never . . . examining the spinal column—nay, many ridicule the idea of examining the spine and disregard a tenderness over any portion of the spinous processes from its commonness, particularly in young people as a symptom of disease in a remote or adjacent organ to the spinal marrow; and I grieve to admit, too infrequently unhesitatingly avow to the patient such examination to be founded on empiricism and selfish motives.

Physiology and astounding facts, however, will even establish the importance of generally examining the spine in diseases. . . . (p. 11.)

The incipient stage can only be detected by a practitioner having acquired, by frequent opportunities of examining such cases, the nice and discriminating eye and touch to detect readily any abnormal condition of the spinous processes as regard their relative height and exact distances from one another; disturbing the beauty of the spinal line and the delightful sense of health and vigor by the consequent pressure upon some portion of the spinal marrow, or upon the exit of some of the numerous pairs of nerves that arise from it. (p. 87.)

Either the trunk or the branches [of the splanchnic] become irritated by contact or sympathy with disease in the notches through which the nerves pass out of the vertebrae.

If the digestive organs become functionally or organically deranged from such a cause, recumbency in addition to manipulation is often necessary. (p. 102.)

In 1869, Blasius[42] published a long article on vertebral displacements, in the course of which he said:

The connection of the spinal nerves with the sympathetic nerves permits of no doubt that the paralyzing and stimulating conditions of the cord influence the latter, and that disturbance in its functions play a part in the diseases of the internal organs. Of these, we emphasize the affections, especially the motor ones, of the alimentary canal which were noticed in connection with subluxations of the vertebrae. (Sec. 32.)

THE WORK OF THE BONESETTERS

The work of bonesetters has for long mystified and disturbed more orthodox practitioners. In 1871, Hood[43] published the results of his personal investigations resulting from his unusual contact with the famous bonesetter, Mr. Hutton. It is not clear from this book whether Mr. Hutton recognized the connection between spinal and visceral conditions, but at any rate, Hood says:

In a few cases Mr. Hutton was consulted on account of stiffness about the neck or cervical vertebrae; and he then was accustomed to straighten them . . . His left forearm would be placed under the chin of the patient, with the hand coming round to the base of the occipital bone. The right thumb would then be placed on any painful spot on the cervical spine and the chin suddenly elevated as much as seemed to be required. As far as my observation extends, the instances of this kind were not bona fide examples of adhesion, but generally such as might be attributed to slight muscular rigidity, or even to some form of imaginary malady. The benefit gained was probably rather due to the pain of the operation, and the effect produced by it upon the mind of the patient, than to any actual change in the physical conditions concerned.

He also described Hutton's procedures in connection with thoracic and lumbar difficulties, indicating a rather crude technic, for conditions not at all well understood. There have been, of course, other observers and writers. But these quotations are believed to afford fair samples of the development of thought and practice among a few physicians of the past two hundred years. Their discoveries and writings made virtually no impression upon medical practice as a whole.

OSTEOPATHY A UNIQUE SYSTEM

This brings us to the time of A. T. Still. He marked an epoch in medical history. In 1874 he proclaimed the principles toward which he had been working for twenty years. His laws of the chemical immunity of the body, based on its structural integrity, were new and unique. His methods were so far in advance of anything that had gone before, and so all-inclusive, that his work stands out as a stupendous and original discovery. He did not look upon manual methods of treatment as an adjunct. To him they were infinitely more than a side line of interest in some cases which drugs could not reach. The living body, in his eyes, was a wonderful, vital machine whose well-being from first to last depended upon a normal circulation of blood and lymph. The circulation, in its turn, could be normal only when nerve circuits were unimpeded by structural perversions.

Thus he and his followers have treated patients suffering from the whole broad range of disease manifestations, including acute infections, by scientific adjustments of the body, based on as complete a study as could be made of anatomy, physiology and related branches of knowledge.

While the ordinary laws of health and hygiene hold their place in this system, yet the law of structural adjustment is fundamental.

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# Diabetes—Its Diagnosis and Treatment

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VII

PHYSIOLOGY AND PATHOLOGY

*Acidosis in Infants:—*

In the normal metabolic process a considerable amount of acid is produced, such as carbonic, phosphoric, sulphuric as well as certain organic acids. Under normal conditions the body is able to neutralize or eliminate these acids, so there is no depletion of the reserve of the fixed alkali in the blood and tissues. In any disease which interferes with this normal metabolism and allows the alkali reserve to be drawn upon produces the condition known as "acidosis."

ETIOLOGY

Acidosis may be produced in many ways:

1. Increased acid production, as occurs in diabetes (this type was discussed in the previous article).

2. Acute starvation, as when the fats break down and give off acetone, diacetic acid, and beta-oxybutyric acid; under this heading are included children who have cyclic vomiting, often showing varying nervous phenomena, such as habit spasm, chorea, recurrent spasmodic croup, and spasmodic bronchitis. Vomition from whatever cause will result in starvation acidosis.

3. Fever from any cause. All fevers produce an increased metabolism and if the carbohydrates are not in proportion to produce a flame sufficient to burn the fats, acidosis results.

4. Watery diarrhea. So much fluid is lost from the body by other channels that the kidneys fail to excrete the acid phosphate, thus producing an abnormal concentration of this acid in the blood stream.

SECONDARY ETIOLOGIC FACTORS

There are certain associated conditions which may precipitate an attack in a susceptible subject, such as:

1. Habitual constipation with defective elimination.

2. Associated intestional crisis with vomiting, high fever and diarrhea.

3. An onset with one of the exanthemata, grip or pneumonia.

4. Fright, fatigue, or unusual excitement may play a part in inducing an immediate attack.

Each of these conditions represents the exciting factor that brings on the crisis. If the condition of systematic intoxication did not exist none of the influences would produce the vomiting. Some cases of recurrent vomition have been cured by the removal of a chronic rib or vertebral lesion or a chronically diseased appendix.

There are also seasonal influences. When the child runs and plays hard, exercising sufficiently to perspire, elimination is better and in many cases fewer attacks occur. Repeatedly these cases will tell you that there are no attacks during the summer months.

The cyclic vomiting attacks may occur periodically. In some cases they may occur every nine days, in others but once in three or four weeks, or as many months.

Acute acidosis in children usually manifests itself in two forms: as a peculiar symptom complex seen in infants, and in recurrent or cyclic vomiting seen in older children. Hyperemia is one of the earliest and most constant symptoms in the infant. The majority of cases occur in infants who are of the marasmic type, who suffer from malnutrition and have severe attacks of diarrhea following digestive disturbance. The stools are usually abundant and of a watery consistency. A very scanty excretion of urine, often amounting to anuria often is present. A polymorphonuclear leukocytosis ranging from 10,000 to 20,000 is found. Determinations upon the expired or alveolar air show a marked reduction in the carbon dioxid tension which may fall as low as 12 to 15 mm. of mercury from the normal of 35 to 45 mm. There is a great tolerance for alkalis, as much as five to ten times the usual amount being needed to bring about an alkalin reaction of the urine to litmus, and to keep it in this condition for twelve or more hours. Acetone may not be found in the urine even in the most severe cases. In intestional intoxication there is with the usual acidosis a marked increase in the nonprotein nitrogenous constituents of the blood, and the symptoms resemble those of uremia. The child shows signs of extreme restlessness which is succeeded by a condition of stupor and eventually coma, sunken, staring eyes, red lips, anxious expression, sweet odor to breath, temperature either subnormal or elevated—an elevation of temperature is the rule in young children. The most distinctive clinical evidence of acidosis, however, is the characteristic air-hunger. The breathing is deep, the increase in rate is less marked, the respirations are pauseless, and individual respirations may vary in depth, the most striking feature being the amplitude of the respirations and the distinct effort with which they are accomplished. This amplitude of respiration was distinctly noticeable in the fatal flu cases, during the war, that were infected with the streptococcus hemolyticus. In these cases, the writer invariably found on autopsy that there was a vegetative growth in the auricular ventricular valves of the heart and especially in the tricuspid valve. In all these cases the streptococcus hemolyticus was isolated from the heart blood as well as from the vegetative growth in the valve.

There is marked prostration. Acetone bodies are present in the urine, neither food nor water is

retained and thirst is extreme. Patients beg for water, only to vomit it as soon as it is given. The vomited material usually contains hydrochloric acid, while in true gastritis free hydrochloric acid is absent.

*Differential Diagnosis.*—The first attack of cyclic vomiting may be confused with meningitis, acute indigestion, or the vomiting in acute nephritis, appendicitis or intestinal obstruction. In the event of an abrupt onset in a first attack, it may be necessary to withhold a diagnosis for a day or two. The differentiation given in some texts is not dependable. Thus the vomiting which occurs as the earliest symptom of tuberculous meningitis may be clinically identical with that of cyclic vomiting in acidosis, and only by the appearance of the other signs of meningitis, or through lumbar puncture, is the differentiation possible.

In acute indigestion there is a brief period of fever and one or two vomiting seizures, after which the patient recovers. In acute nephritis an examination of the urine readily settles the diagnosis. In appendicitis there is pain and spasticity and the vomiting is not continuous; in cyclic vomiting of acidosis the abdomen is relaxed, soft and not tender to the touch. Intestinal obstruction is an affection of infancy; cyclic vomiting rarely occurs before the second year and usually not until after the third year. In intestional obstruction there is abdominal distention and perhaps the passage of bloody mucus due to intussusception.

*Prognosis.*—There have been a number of fatal cases but under proper osteopathic care the prognosis is usually good.

*Treatment.*—A detailed outline of all treatments will be given in later articles on the treatment of diabetes and associated conditions.

It is well to mention here, however, that in cyclic vomiting cases the precaution of withholding cane sugar and milk fat substances from the diet is one of the most necessary features of the management. Some authors believe that the use of milk in the diet of some children is productive of attacks. It is the fat content of the milk that produces the attack. Children belonging to this class have a low tolerance for sugar and fat, particularly for cane sugar and cowsmilk fat. The nearer the approach to a vegetable and cereal diet, the better for the patient. The nitrogenous foods allowed are poultry and white fish. Vegetables, stewed fruits, skimmed milk and buttermilk may be freely used. Sugar is not to be permitted. All cereals are permissible, but the preferred ones and combinations will be given in the articles on dietary treatment.

(The next article will be a continuation of Physiology and Pathology, with further discussion of acidosis and its relation to diabetes.)

# The Relation of the X-Ray to Osteopathic Practice*

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PART II
THE THORAX

In no part of the body is differential diagnosis more important than the thorax, hence x-ray study is a most welcome addition. Indeed, in many conditions it will establish a diagnosis when all other methods fail; at other times it is confirmatory of clinical and laboratory diagnosis; while again it may establish a negative diagnosis.

The chest should be examined both fluoroscopically and by means of films and in each examination the following points should be noted:

1. Bones of the chest
2. Heart: great Vessels and Mediastinum
3. Lung Fields
4. Diaphragm

At the clinic most of the chest work was done to establish the presence or absence of tuberculosis, pleurisy, unresolved pneumonia, possible metastatic growths, and to define the size, shape and function of the heart.

*Tuberculosis* is the most frequently encountered condition involving lung fields and the description that follows applies to the ordinary type of chronic tuberculosis found in adults, young and old.

Incipient tuberculosis can no more be diagnosed definitely by x-ray than it can by any other method; however, an early active process can be demonstrated by the keen roentgenologist. The usual location of this early lesion is in the upper lobe of either or both lungs, but more frequently in the

This is a case of combined mitral stenosis and regurgitation. Note enlargement of the heart, particularly the left ventricle and auricle, also the right auricle and venæ cavæ.

*Read before the Middle Atlantic States Osteopathic Association, October 21, 1927, and before the New York State Osteopathic Association, October 28, 1927.

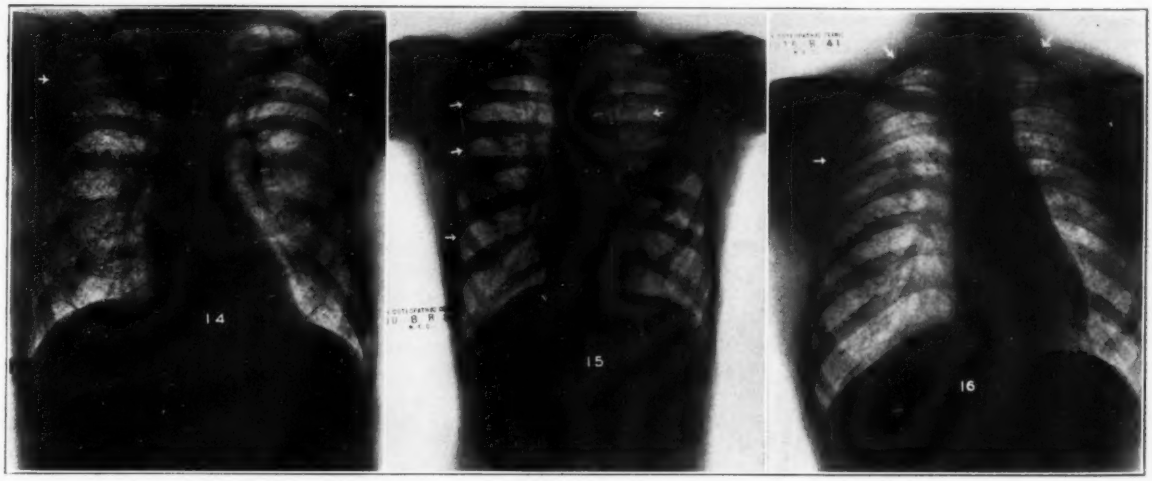

Fig. 14. Shows the diagnostic value of the x-ray. The patient was radiographed for a fractured clavicle and the film revealed an area of chronic infiltration and clouding with calcified areas throughout the upper lobe of the right lung. This patient showed no signs of clinical tuberculosis.

Fig. 15. Demonstrates chronic infantile tuberculosis. The boy was fifteen years old and gave a history of a long-standing cough, lassitude, inability to gain weight of many years' duration. Here we see areas of infiltration throughout both lung fields, some calsified areas, and fibretic strands radiating throughout the lung, showing the chronic method of healing.

Fig. 16. In contrast to Fig. 15, this shows the adult type of tuberculosis starting in the apices and infiltrating throughout the rest of the chest. The tuberculous areas seen in various stages described in the text may easily be observed. This man, twenty-five years of age, had a hemorrhage two years ago, went to a hospital, diagnosed strain and was not x-rayed. He came to clinic June 15, 1927, following a second hemorrhage, and the x-ray demonstrated chest lesions.

right. The area selected is generally close to the clavicle, sometimes a little above, but more frequently just below in the outer two-thirds of the field. The lesion shows an increase in density of an area of variable size, which is of irregular outline and gradually merges into the surrounding tissue. From this point on we may have the following termination:

1. The process becomes incapsulated, the outline thus becoming distinct, and no further activity takes place. Sometimes this goes on to complete resolutions, leaving only a slight scar.
2. Calcification of the area may occur.
3. The condition becomes progressive; there is considerable tubercle formation with coalescence of the tubercles and an increase of density throughout the lung fields. This density may assume the character of discrete tubercles throughout the chest or they may be associated with a tuberculous bronchopneumonia. At this stage we have a characteristic mottled appearance of pulmonary tuberculosis, i. e., rounded areas of increased density surrounded by healthy tissue, with the greatest activity in the upper lobes, showing various stages simultaneously. Thus we have calcified areas, new-formed tubercles, areas of fibrosis, and foci of caseation. If the caseation continues and healing does not occur, cavitation ensues. Cavitation is characterized in the film by a

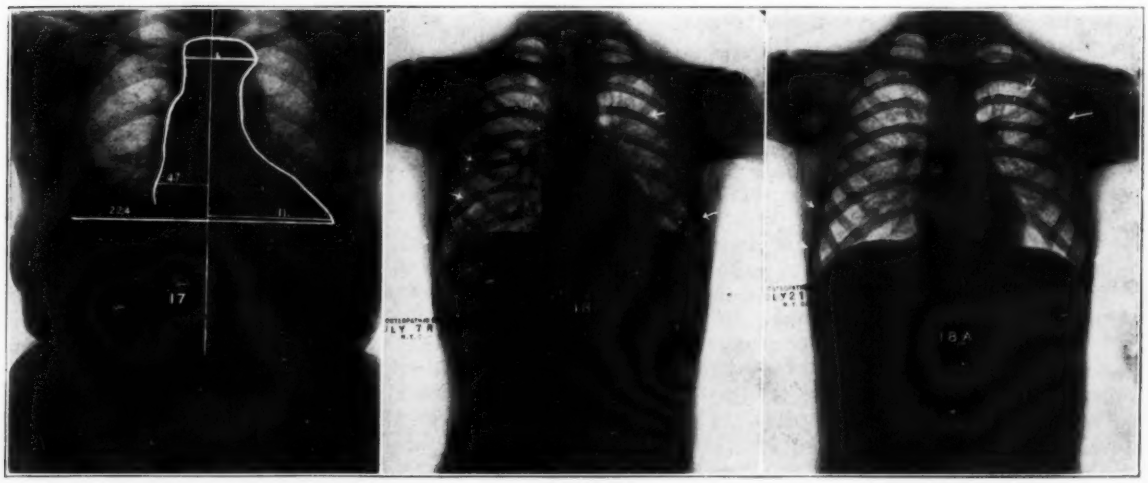

Fig. 17. Demonstrates an enlarged arteriosclerotic heart as described in the text. This patient complained of gastric symptoms. The x-ray established diagnosis graphically and relieved her mind very much.

Fig. 18. Demonstrates a broncho-pneumonia. There is an area of clouding about two inches above the top of the diaphragm, which is marked. Similarly, the angle between the ribs and the edge of the diaphragm, which should be clear, is clouded.

Fig. 18-A. This is the same case as in Fig. 18 two weeks later. Contrast the sharp, clear angles between the ribs and the diaphragm, compared to Fig. 18, in which it is clouded. This patient came to the clinic four weeks after having had unexplained fever and cough. The diagnosis, which was made from the film, was unresolved pneumonia. There was marked improvement in the two weeks' treatment.

rounded area with an absence of lung markings—surrounded by areas of fibrosis.

The diagnosis of tuberculosis from films is, of course, largely a matter of experience. To gain this experience, the roentgenologist must see many normal films and compare them with pathological ones.

*Infantile tuberculosis.*—Childhood tuberculosis differs materially from the adult form, inasmuch as it usually affects the lower pulmonary fields, particularly the right lobe, although it may appear anywhere in the chest. From the original foci the lesion may either spread or be arrested and clear up altogether. If it spreads, the hilus glands are next involved; from here it may spread through the blood stream and become a generalized miliary tuberculosis of the chronic ulcerative type. This disease may, of course, be arrested at any stage and upon these variations depends the picture which we find.

*Lobar pneumonia.*—It is often diagnosed by x-ray before physical signs are positive. Use of the roentgenogram should be part of your routine in diagnosing this condition. Pneumonia expresses itself on the film as a gross increase in density with a varying loss of lung detail in the area involved. The shadow changes with the progress of the disease, and as resolution occurs, becomes mottled.

*Broncho-pneumonia.*—Probably occurs more frequently than is generally supposed. Holmes and Ruggles describe it as follows: "The appearance is that of single or multiple areas of increased density, generally located near the course of the larger bronchi. The areas are of varying size and the outline is hazy; the lesions are usually multiple; there is frequently considerable variation in the density of different parts of the same areas as well as between the different areas."

We have not taken into consideration disease of the thymus or thyroid, pleurisy, lung abscess, malignancy or other lung conditions, because as yet these cases have not come to us at the clinic, and although we have seen these cases in private and hospital work, we thought it better to confine ourselves to clinic material.

*The Heart.*—In studying the heart by means of the x-ray, both the fluoroscope and films are used. Much may be learned from either method, but each complements the other.

The fluoroscope shows us the heart in motion and gives a general idea of its relation to other thoracic viscera.

The films are taken at a distance of six to seven feet from the film to the x-ray target, because films at that distance give the actual size of the heart without magnification.

After the film has dried, a perpendicular line is drawn through the center of the spinal column and a horizontal line is drawn to the furthest points to the right and left of the cardiac shadow. This gives the transverse diameter of the heart. As a rough estimate, if the sum of this transverse diameter does not exceed ½ of the total measurement of the thorax at its broadest point, the heart is normal and further measurement is unnecessary. If the measurements exceed ½ the total diameter of the chest, the weight and age of the patient are then ascertained and comparison is made with standard heart tables derived from a study of normal individuals.

In viewing the heart anteroposteriorly, the shadow is composed of a number of curves, two on the right side and three on the left, with occasionally a fourth. The right upper curve represents the superior vena cava or occasionally the ascending aorta. The outline of the right ventricle does not appear in the shadow at all. The second or lower curve represents the right auricle. The left upper curve marks the descending arch of the aorta, the second curve the pulmonary artery, the third (if present) the left auricle, and the lowest and largest curve the left ventricle. It may be graphically represented thus:

*Aneurism.*—Is more easily diagnosed roentgenologically than by any other method and many so-called stomach symptoms are thus elucidated. The aneurism shows itself as an enlargement in the mediastinum confluent with the aorta. Usually it is fusiform, sometimes sacculated, generally it pulsates, though there are exceptions. Aneurisms vary in both size and location and often displace other mediastinal organs such as the trachea or esophagus.

As yet we have had no aneurisms at the clinic. However, no paper dealing with this subject would be complete without mentioning this important subject.

Valvular lesions of the heart follow the path of compensation and cardiac pathological physiology; thus, if an aortic lesion is present, there is a left ventricular enlargement; with mitral lesions, the heart as a whole enlarges, but particularly the left auricle and the right side of the heart. Variations depend on the degree of hypertrophy or dilatation of the component parts of the heart and great vessels.

Arteriosclerosis or nephritis causes a general enlargement of the heart, especially the left ventricle.

Most of our heart cases have been normal. However, the pathological cases are illustrated in the text and demonstrate how helpful is graphic representation.

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# Establishing a Foot Practice

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## II

### CAUSES OF BROKEN ARCHES AND FOOT SYMPTOMS

In my first article in this series, I defined "broken arches" as being any break in the continuity or contiguity of the arches. That is, any separation or change in the relation of the bones that make up the arches. "Broken arch" does not necessarily imply "weak arch," "fallen arch" or "flat foot"; the latter conditions being more advanced cases of broken arches, the flat foot being the sum total of everything that can happen to an arch. It is possible for people to have a separation in some of the joints of the feet without any distress, and the evidence appears convincing that most cases have this separation or break in their arches

for about five years, on an average, before foot symptoms appear.

Broken arches are the result of injury to the feet. The most common and almost universal form of injury is the molding of the feet out of line with straight shoes that have poor last proportions. Practically all ordinary shoes are made over lasts that have wrong proportions, thus disturbing the delicately balanced action of the feet. This type of shoe will prohibit free exercise of the foot, thereby weakening the muscles and impeding normal circulation. Now with the foot weakened and the main inner arch thrown out of line, any misstep, sprain or injury will precipitate serious trouble.

Fig. 1

It is my intention to present a mechanico-physiologic pathology of broken arches in order to explain causes and symptoms together. First let us consider briefly a few important features of the normal foot. The inner and outer longitudinal arches, as you will remember, are separated by a longitudinal cleft, starting between the astragalus and os calcis and extending forward between the cuboid on the outside and the scaphoid and external cuneiform bones on the inside, and continuing forward between the third and fourth metatarsals and the accompanying phalanges. (See Fig. 1.) From now on think of the foot as a double functioning organ—an inner spring and an outer weight-bearing beam. Figure II is an illustration that I have made for shoe and last manufacturers in order to explain this function.

Now then, weight-bearing and locomotion are carried on through the medium of this spring and weight-bearing beam in an orderly fashion. One should walk with a free and easy step, the entire foot being relaxed as the heel is planted on the ground. The burden is then distributed involuntarily from the heel to the outer side of the foot and then across the ball to the great toe. The step is now completed by the use of all the toes. The great toe should point straight forward. (See Fig. III.)

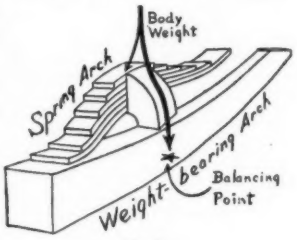

Fig. 2

The foot is designed to take care of the streams of weight-bearing forces that travel through the foot from heel to toes. This principle is spoken of as the "moving load" on bridges by engineers. As the foot is distributing the moving load, it is also softening the jar by use of the spring arch. *So long as the foot is perfectly balanced, the weight focused on the outer arch, and the joint action free, there will be no distressing symptoms.*

Foot balance must be perfectly understood in order to determine how shoes injure feet. The tripod or three-point suspension theory has been handed down for years, but careful study will prove its fallacy. Weight is borne by the heel, the outer side and the *entire ball.* There are six points of weight-bearing under the ball—the two sesamoids under the great metatarsal, and the second, third, fourth and fifth metatarsals. All the metatarsals bear their share of the weight in every normal foot.

Figure IV shows two imprints. The right foot is normal, the left is out of line, in a position of eversion. This shows the "Triangle of Balance" worked out by the writer. The point A is taken at the innermost point of weight-bearing at the ball, point B is at the outermost point of weight-bearing at the base of the fifth metatarsal, and point C is the innermost weight-bearing point at the heel. By connecting these points the "Triangle of Balance" is formed. A line drawn at right angles to the line A-C and striking point B, the writer calls the "Base-width." *The wider the base-width (B-D) the better balanced is the foot.* You will notice that the base-width in the normal (R) foot is wide, that the foot is in line, and that the long central dotted line is curved. As the normal foot takes on the weight in standing the foot has a tendency to settle down toward point B. The foot then is in perfect balance, so long as the weight is focused on the outer arch. The wider the base-width (B-D) the better balanced is the foot.

Fig. 3

Eversion or outward turning of the foot with arch troubles will so alter the relations of points A, B and C that the base-width will be lessened. This is shown in the left foot in Figure IV. You will notice the left base-width line (B-D) is shorter than the right base-width (B-D). This alteration of the "Triangle of Balance" is accompanied by lateral spreading of the transverse tarsal arch (cuboid and cuneiform bones) in the act of eversion. However paradoxical it may seem, I want to call attention to a law to be remembered: *as the foot widens in eversion, the base-width narrows.*

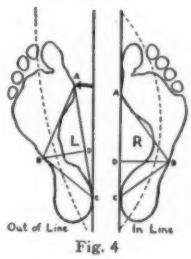

Fig. 4

As eversion takes place the focus or weight-bearing, which normally is in the region of point B within the "Triangle of Balance," moves toward the inner side of the foot. As the focus of weight-bearing moves inward strain and tension in the foot increase, and symptoms begin. This latter phenomenon is not constant, as the natural laxity or tightness and strength or weakness of the individual's ligaments will modify it somewhat. It has been a clinical observation, and it is reasonable to see why, that strong individuals with heavy ligamentous structure will develop tension and strain with a smaller degree of eversion than weak ones. The strong ones reach the elastic limit of their arch structure quicker than the weaker ones.

Some patients will permit the focus of weight-bearing to travel so far that it will be beyond and mesial to the "Triangle of Balance." That is, the center of gravity will not be within the base. The above changes in the weight-bearing focus will produce strain in the entire leg. The center of weight-bearing will be mesial to the center of the ankle and knee joints, which will lessen the pull on the outer fibers of the joint capsule and increase the pull on the inner fibers. This will give arthritic and synovial

pains in these joints, due purely to mechanical reasons, but often misdiagnosed "rheumatism," whatever that term implies. So the "Triangle of Balance" should be kept in mind in considering causes, diagnosis and treatment of foot troubles.

What have shoes to do with this "Triangle of Balance?"

In the first place, shoe lasts are made without any idea of triangles of balance, weight distribution or moving loads. Shoes insidiously mold the feet out of line. Figure V shows a shoe sole with a black line superimposed on it to represent the line of the main arch. This type of shoe will hold the foot in proper alignment. Figure VI shows a poorly proportioned shoe (and nearly all are like this) pulling the arch out of line and the foot into a position of eversion.

Fig. 5

Figure VII shows what would happen to a stone arch if one end were forced out of line. The keystone would not be able to bear weight, so the arch would fall down. Exactly the same mechanical principles apply to the foot arch when an ordinary straight-last shoe pulls one end out of line. This principle is illustrated in Figure VIII, showing the effect that ninety-five per cent of the shoes have on the feet. You can see the foot pulled from its normal position into eversion. This is the first step in production of a broken arch. Eversion is accomplished by a spreading of the transverse tarsal arch, made up of the cuneiform and cuboid bones. This causes a widening of the foot and a moving of center of weight-bearing away from the outer arch and progressively toward and on to the spring arch. The triangle of balance is narrower, as heretofore explained. Usually the internal cuneiform and cuboid bones drop, the scaphoid twists inward and the joints are put on greater tension. This mechanism produces the two most important mechanicopathologic conditions we have to deal with:

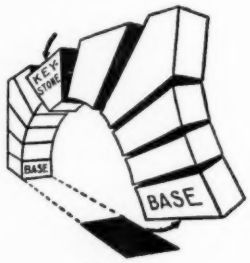

Fig. 7

1. Strain
2. Impaired joint motion

Up to this point I have not spoken of any dropping of the arches. Sixty per cent of the cases will maintain the height of their arches, but their feet will be on a terrific strain. This causes a mechanical arthritis, a myositis due to extra work, and neuritis due to encroachment on some of the nerve trunks. The center of gravity being moved from the center of the leg, muscle and joint strain will be felt in the limbs.

The impaired foot action will prevent proper distribution of the load and cause corns and calluses. Continued rigid walking will lessen muscle activity in the feet and legs and result in partial atrophy.

Metatarsal troubles are never primary. They are always due to impaired distribution of the weight across the ball of the foot. Let me also make two unqualified statements here:

*There is no such a thing as an anterior metatarsal arch.*

*Metatarsal bones do not drop.*

An arch is made up of wedge-shaped parts fitted closely and accurately together, while the ball of the foot contains a row of round metatarsal heads, very loosely connected, each one of which must bear its portion of the load. If they are already bearing the load, they cannot drop any further.

Metatarsal pains are due to focusing the weight at one or two metatarsal heads, and literally pounding the sidewalk until a periostitis and callus is produced. After these painful spots are produced, afferent impulses to the spinal cord produce a reflex that sends efferent impulses to the dorsal extensor muscles which cause the toes to draw up. This is Nature's attempt to minimize pain by immobilization. So the patient develops a rigid locomtion with toes drawn up. This makes the pain worse. The ball of the foot is not aided by the toes at the end of the step, so the patient pushes himself ahead by added pressure on the already tender metatarsal heads. So metatarsal troubles are secondary to poor arch activity, and will be so recognized when I consider treatment in a latter article.

Fig. 6

Fig. 8

Another form of injury that may either precede or result from an unbalanced foot is "sprained ankle." However, I have come to believe that most of these sprains are sprained feet. This turning of the foot usually results in a break of the outer weight-bearing arch with an accompanying drop of the cuboid bone. This will give pain on the dorsum of the foot or under the cuboid, and referred neuritic pains and muscle cramps in the fourth and fifth toes. This is usually in the fourth toe, and has been given the vague term "Morton's Toe."

Weak foot is the result of an inherited general ligamentous weakness. The feet do more work, and their already weakened ligaments have more stress than they can stand. As a result we get hypermobile, flaccid feet with sagging arches and flat feet. Luckily these patients are not numerous and do not suffer so much. The weak ligaments lengthen and thereby avoid strain; while the ligaments in strong individuals hold fast and cause increased tension, strain and distress.

A fallen arch is a broken arch that has misplacements of bones that at one time were in their normal position. These feet are usually extremely everted, and the bones misplaced to the fullest extent the ligaments will permit, where they are held in a position of tension and strain. They make up the one and two degree flat-footers which constitute about thirty per cent of the cases.

Flat-footedness (third degree) represents about

everything that can happen to arches. If the condition is acquired, which I believe to be rare, we have an arch that has broken down. I do not think very many cases start with high arches and break down to third degree flat-footedness. People that start out with high arches usually keep them, even when the arches are broken, or may fall to a certain extent and remain there on a strain (so-called first and second degree flat feet). A complete fall of an arch can occur in congenital weak foot, and in some acquired cases of weakness due to wasting disease. But the average run of flat-footers usually start their ambulatory life with flat feet, in which cases we are dealing with a deformity of the arch bones rather than a broken down arch that at one time was high. I believe that most flat-footedness is a deformity dating from early childhood, and like most deformities, it is not painful.

Very fat babies, as well as malnourished, may stand or even walk before they have developed sufficient muscular strength in their feet to meet the demand of the superincumbent weight of their bodies. These children start life with flat feet. Their little bones become misshaped while in the cartilage state, and the difficulty really becomes a deformity.

Older children may acquire broken arches through ill-fitting and poorly made shoes. Jumping is conducive to broken arches and should never be permitted. A common misconception in gymnastics is to force children to stand with heels together and toes out. This position immediately forces the center of weight-bearing inward from the center of the feet, and if repeated, will eventually throw the main arches on a strain—which is the first step in production of a broken arch. One should always stand and walk with toes pointing straight forward.

It is not uncommon for patients to have foot trouble dating from an acute illness, operation or long rest. This prolonged inactivity causes a weakening of the muscles all over the body. As the feet do more work for their size than any other part of the body, this general muscular weakness will be felt more there, and will allow the arches to go over on a strain. Thus impending arch trouble is excited into active symptoms. So the illness is merely an incidental factor that brings on the symptoms in a foot that previously had been thrown out of line by poor shoes. These cases seem to prove a previous statement about broken arches being present without pain. A prolonged rest in bed should be good for arches, not cause them to break. There is no doubt in my mind that these people have broken arches without pain before taking to their beds, and the inactivity, plus any wasting from disease, will permit these arches to go over on a strain when weight-bearing is started.

The mechanical derangements and physiological perversions described in this article form definite physical lines of stress and strain in the body that account for the symptoms, which can briefly be summarized as follows:

1. Extremely tired feet and legs.
2. Aching and cramping muscles under the arch.
3. Pain and cramps in any of the toes.
4. Bunions.*
5. Painful calluses at points of undue weight-bearing.
6. Pain in the heels.
7. Burning sensations, and numbness.
8. Weak and sore ankles.
9. Aching and cramping of leg muscles.
10. Stiff and painful knees.
11. Pains in thighs, hips and back.
12. Difficulty in keeping one's balance when walking on rough surfaces.
13. General fatigue, headaches, irritability and nervous exhaustion.

*Bunions are listed here because of the relation eversion has to formation of hallux valgus. See later article.


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*Give me liberty to know, to utter and to argue freely according to my conscience, above all other liberties.—Milton.*

## MAKING THE NEW YEAR ELOQUENT

Dr. Frank Gunsaulus used to say "It takes an eloquent audience to make an eloquent speaker," and never a truer line.

Artists of the stage, lecturers, teachers or pleaders—it's that row on row of upturned, eager faces that stimulates and draws forth. In very truth, it is the eloquent audience that has found an oracle for the deeps of its soul. 'Tis the great congregation to the utmost gallery that is finding rare and rich expression, free and untrammeled.

As with Daniel Webster against Haines, his preparation may have used decades in studious observation and interpretation of his people and of the times, till like a master composer he comes into his hour, and he fills that hour to the full.

So comes our own Webster, our national president—for organizations are not different from audiences. Associations, too, have souls, and organizations can be eloquent and make great presidents, or they can freeze his blood and dry up his spirit.

No A. O. A. president has come to his high position better or more studiously prepared than our President Webster. No president has in the first half of his term given more professional interest, ideas and plans. We, his audience, make him eloquent and outstanding in his labors among us. This is his hour and year—Dr. Still's Centenary Year.

What is our valuation of osteopathy and its future? If the generous response that has already been given the first half of this year mounts to a grand crescendo, reaching its climax at Kirksville, we will create through our president and the cooperation we can give him a mighty symphony of harmony, beauty and healing that shall be the beginning of great enrichment in things long visioned—the beginning of dreams fulfilled.

## "FIX IT"

"Fix it." That was the revolutionary idea that was verbalized from the brain of Dr. A. T. Still on the 22nd day of June, 1874.

First "Find it," then "Fix it."

The conception is mechanical. The forces operating in and through the human biochemical mechanism are physical, chemical, electrical and vital.

With Dr. Still's verbalization, therapy stepped up and away from mysticism, empiricism and tradition. The logic of cause and effect—the dawn of therapeutic reason—was at hand.

"Fix it."

Two simple words—their import and inclusion deduct from all the accumulated knowledge of anatomy, physiology, histology, biology, biological chemistry, psychology and all the other 'ologies' concerned with man and his physical efficiency and apply the facts to therapeutic problems.

"Fix" implies a knowledge of mechanics. Whatever else may be done, as a therapeutic effort, it is of small concern to the organism provided only the structure is fixed. The organism only subconsciously wills to live as an organism. All Nature wants is a way clear for action and the means with which to act. When the fixing is beyond the field of manipulation, nutrition, elimination or immunization, operative surgery may be called on to do what cannot be done by other means. The vast majority of illnesses, however, can be reached by the application of corrective measures based on a complete understanding of the 'ologies' mentioned. If delicacy is needed to "find it," delicacy of judgment and keen visualization of mechanical forces is needed to "fix it." The use of force rather than skill in the fixing process is contradicted. The tissues are delicate, vital structures. They are a part of the organism being fixed and should be worked with rather than against. Each cell has its own life to live, and aside from living it has to defend itself against trauma and toxin. Violence breaks down tissue. Broken down tissue results in toxins that have to be converted or conveyed from the spot. Skill and understanding in the matter of corrective measures rather than force is indicated. Just sufficient force to accomplish the correction of tissue relationships without injury to the structures involved, restoration of fluid tensions, supplying through right food and nutritional elements for molecular structure, is the way of choice. To "fix it" requires a high degree of skill, full appreciation of delicate structures involved, and careful judgment, taking into consideration all the factors concerned in the perversion manifest as pain or pathology.

Some of the factors in certain disorders are still a secret with Nature. Investigation has revealed many factors and from the known we should by continued investigation proceed toward the, at present, unknown. Gross structure is fairly well known, yet the application of mechanical principles taking into account all of the factors involved in correcting abnormalities is not so well known. Minute structures, the histology of tissue, is also well known, but the influence of tensions and the alteration of fluid pressures within or upon the component parts of tissue are not so well understood. The

relative positions of the organs are rather accurately described, but the influence of altered positions on the functions of the organs is not so well detailed.

We are just beginning to appreciate the tremendous influence of nutrition—supplying raw materials to the tissues, the elements, from which is built their molecular structure. Molecular and atomic structure is just as much structure as is the skeleton; for molecules have a very definite elemental structure and atoms and ions determine structural relationships. Parasitology and bacteriology provide certain well classified knowledge but the reactions of living cells in the presence of parasites and bacteria is not so well known. The influence of foreign toxins introduced into the body has been studied but the influence of toxins generated in the body has still many unknown phases. A break in the integrity of the external or internal surfaces of the body opens the way to the invasion of bacteria and the body has to fall back on its second line of defense, which is still the subject of investigation. Abuse of function, the taxing of certain cells to the point of depleting their ability to respond to stimuli has been the subject for experimentation in laboratories but the influence of such fatigue in the human body upon the molecular structure of the cell has not been so carefully studied.

The "Find it" may take us into any one or more of the realms suggested in the course of our investigation. The "Fix it" must necessarily be in the same fields save only as the gross structural relationships are fixed, or corrected, the self-regulative functions of the body in the more minute structures involved tend to adjust themselves. The deeper we can reach into an understanding of all the structural factors and forces involved in a given condition the better we will be able to discharge our responsibilities when called upon to "fix it."

It is to encourage this depth of study that the profession is urged to cooperate with the Committee on Professional Development in trying to place the individual members of the profession in the position of being able to best fix whatever is wrong with their patients, and that with the least lost motion, through a scientist's understanding and visualization of just what is taking place during the "Fix it" process.

G. V. W.

## EVALUATING YOUR TECHNIC

If we will remember that genius is still the infinite capacity for taking pains, most any sort of technic will work and work effectively, but without this attitude of mind any sort of technic may become useless or even harmful.

The first consideration must always be the patient, especially if it be a bedside case. Much of the office technic can be adapted to bedside use.

Dr. Burns was pleased to note in her little visits to the colleges that the question was not so much how do you give a treatment but what is your diagnosis of this case; what's the matter with him; what's the cause of it all; how can we correct the abnormal conditions found?

Technic, after all, is only an incidental feature. If a man knows his diagnosis, understands the anatomy and physiology and possible pathology, he will have comparatively little trouble in finding a way of fixing it.

But the question is, may there not be a better and easier way, some way that is adapted to this special case? Is there not a more scientific method of cooperating with the structure and function of the part so as to avoid unnecessary traumatism? And then comes the question: How can the doctor save himself, as well as the patient, unnecessary fatigue in doing the work indicated? The present tendency is toward simpler as well as easier methods and there is no doubt but what these can be used just as specifically as other more spectacular methods, and the effect is much more desirable. Instead of working against gravity let the pull of gravity help you. We can use fulcrums and balance. In some cases we will use force but it will be controlled force, applied with precision and relaxed with due consideration, as Dr. MacDonald so clearly demonstrates in his technic lectures.

Dr. D. L. Clark and his writers have in this issue some very telling points on the matter of technic. We do well to give more consideration to the tissues surrounding the bony parts. Edemic conditions, strained ligaments, contracted or contractured muscles, lymph stasis, not forgetting the patient himself, and remembering that in most cases we are dealing with intelligent human beings who are residing within this body structure, and further, that every cell and nerve center in that body deserves considerate and reverent approach. And in addition, that the operator will secure more satisfactory results only as he is able to secure assurance of the individual and confidence of the tissues to be adjusted as shown by relaxation and readiness to respond and cooperate with the technician.

Nature tends toward the normal. Lesioned segments are waiting for a little help to find their way home. And it is only by recognition of these facts that we are able to remove the obstructions effectively and specifically and find an easier way to gain and maintain structural integrity.

## THE SECOND RIB

Just below the clavicle we find it, and if in lesion it presents a tender, sharply defined surface as compared with the smooth, rounded, more flattened surface of its normal mate on the opposite side of the chest. The whole course of the rib is tender, including the terminal attachments with the vertebra and sternum. The "basket handle" is

usually upward, tensing and pressing on tissues about the brachial nerves.

Neuralgia and neuritis conditions in arm or shoulder usually manifest on the lesioned side. Sometimes, a variety of symptoms may be traced to this structural disturbance, influencing breathing, head conditions, and digestive processes directly or indirectly.

A large percentage of patients have second rib lesions. No better opportunity for explaining in a simple way a significant example of the principle of osteopathic practice. 'Tis easy of diagnosis and the patient can also note the tenderness and prominent sharper line of bone. Symptoms usually confirm the diagnosis. Let the patient note the difference after correction. Osteopathy is finding what is out of line or disturbed in the mechanism of the living machine, diagnosing and correcting and so giving relief.

One easy method of correcting this rib lesion is by placing the patient in a sitting posture, close to and facing the table. Have him lean his head over on the table, bring the upper part of the chest in contact with the firm, pillowed edge of the table. This is a natural physiological position. Then, without the patient moving his chest from the table, let him turn his face to one side as far as he can conveniently. The operator stands facing the same way as the patient, with one hand on exposed side of face holding easily. The base of the other hand is on the angle of the upper ribs or near side of spine rocking to and fro, and then a gentle but firm thrust is made in line with the course of these upper ribs. Have the patient turn head the opposite way and repeat the operation, taking opposite side, or changing position of the hands. This gives easy, specific adjustment of the second rib. Take note then of the changed position of the rib.

Sometimes standing back of patient, the operator placing his forearms through and under patient's axilla, clasping in front, then giving a gentle pull or stretch or well-timed spring upward and backward of patient, makes more sure a general normal relationship throughout the upper segment. Then be sure to carefully test each part of the ribs and vertebrae to make sure that complete adjustment has been secured and with palliative relaxation of tissues about the articulations.

Like method may be applied to other upper ribs.

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Associations, organizations, societies and clubs, even cities, states and nations, are but attempts to produce a multi-man organism from many one-man organisms, much as man himself, a multicellular organism, is produced from many unicellular organisms. The organization machinery of the former is comparable to the physical structure of the latter and is controlled by the same principles of life, growth and development. Real living comes from finding one's place in the social structure and willingly cooperating with the whole.

B. C. M.

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Osteopathy is not so much the thing done nor the way it is done, but the why and wherefore of it.

B. C. M.

## CANCER

The cancer problem is becoming a more noticeable menace each decade. A cause for cancer has been sought by many. Cancer does not occur in people who are well, and probably the causes of cancer are as numerous as the causes of toxemias and inflammations. Increased cholesterol, chronic acidosis and chlorid retention, local irritation as infiltration with scar tissue, spinal or other bony lesions, prolonged application of heat or chemical irritation means congestion—in other words circulatory whirlpools. Debris, chemical or otherwise, does not collect in a rapidly moving stream, but disturbed body chemistry plus local irritation equals local cell toxemia. Cell intoxication continued over a long period of time means cell inebriety. An inebriate, no matter what his social plane may be, does not conform to nature's laws, therefore, when toxemia or local irritation combine to produce cell toxemia and inebriety, cancer is likely to be the result. Normal cells differ from cancer cells in about the same ratio as normal human beings differ from inebriates. Osteopathic treatment clears out circulatory whirlpools and localized toxemias are thereby rendered transitory. We rarely find cancer developing in osteopathic patients, though it is often present when they first seek aid from the osteopathic physician. It is my opinion that osteopathy has prevented many thousands of cases of cancer. Prevention is the only solution of the problem for the human race, though we may solve individual problems by surgery, cautery, radium, x-ray, diet and osteopathic treatment. I would like to hear of the observations of osteopathic physicians as to the number or percentage of people actually developing cancer while osteopathic patients.

W. Curtis Brigham.

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## EARLY SIGNS OF GASTRIC CARCINOMA

Important as the positive signs of cancer may be, how much more important is it to detect the first signs when there is yet time to do something for the patient.

The first sign of cancer of the stomach is indigestion and herein lies the danger—for if we fail to associate indigestion with other facts we will overlook the real pathology until it is too late.

The patient who comes to you giving a history of good digestion up to two, three or six months ago, but is now troubled with a persisting indigestion, is a potential case of cancer if associated with one more factor: age. The patient's age determines whether or not the case may be serious.

Indigestion may occur at any age but it is temporary, and is usually traced to faulty diet, overfatigue, worry or soft tissue lesions which clear up when the temporary causative factor has been removed. But when the patient of cancer age develops indigestion, even though there may be one or more of the causes just named associated with it, the condition doesn't clear up. This patient must

be given a most exhaustive examination to eliminate cancer.

The roentgen ray is our most valuable examination at this stage. Under the fluoroscope the slightest defect in the stomach wall will interfere with the smooth movement of the peristaltic wave from the cardia to the pylorus. The general consensus of opinion, including our own experience, is that 95 to 98 per cent of early gastric or intestinal carcinomas are recognizable by the roentgen ray.

We should begin now to educate our patients (especially those of cancer age) to submit to periodical examinations in the hope of making an early diagnosis while the pathology is still local, and not wait until it has become systemic and hopeless.

CHARLES J. MUTTART.

## CONCERNING CANCER

Twenty-six years ago I began serving in the clinics of the Chicago College of Osteopathy and was astonished at the number and variety of cancer cases that presented for treatment.

The college was located in what was then the medical center of Chicago. Osteopathy was comparatively new, and I found from questioning those cancer patients that most of them had been the rounds of the clinics of the other colleges and had come to the osteopathic clinic as a last hope.

I became especially interested in cancer and have studied it considerably ever since. I was very much impressed, some twenty-five years ago, by an article that I read, published, I think, by the Battle Creek Sanitarium, in which they stated that about all they were certain of concerning cancer was that it began with a perverted nutrition. I believe that the statement will still hold true today, with perhaps the qualification that it is caused or predisposed by a perverted *local* nutrition.

Osteopathically speaking, I have made a very interesting observation: I have never seen a case of cancer where there was not a marked interference in the trophic nerve centers controlling the parts. As I have said, this is an interesting observation.

I do not doubt that there are many factors that predispose to cancer. These one may find in any work on cancer, but the factor that I wish to emphasize is one that is strictly osteopathic — that of locally disturbed nutrition.

It is my opinion that cancer begins a long time before we are able to detect it by our present methods; that what we now call cancer is really the last stages of cancer. I am not discussing a cure for cancer as we now know it, but I do believe in the light of my experience of the last twenty-six years that osteopathy properly applied may be a great factor in preventing it, and after all, although it may not be as exciting, prevention of any disease is always better than cure.

Cancer is a relatively modern disease, and those who think it is caused by the lack of vitamins and mineral salts in our food are probably partially right. The devitalizing effect of the rush and tear of our modern methods of living is probably a predisposing cause also. But why is cancer a local disease to begin with? One thing we may be sure of, cancer does not start in healthy tissue. First the local resistance to the part involved is broken down, and as the general resistance is broken down, the disease may spread until it becomes in some cases quite general.

There are, undoubtedly, many people who have potential cancer in whom it never develops because of their resistance. We may be of considerable service to humanity in preventing the development of cancer by not only keeping up general resistance, but especially, *local* resistance.

This matter of local mechanical interference with nutrition or resistance, which are one and the same, is a matter that has not been recognized by the medical profession in general as yet, but is a fact well known to the osteopathic physician.

If the gross functions of a patient are operating somewhere near normal, the patient is passed as well by the average physician, but the osteopath can find mechanical interference to the nutrition of the breast, uterus, liver or other organ, that is predisposing to a lowered local vitality and predisposing to cancer.

There is probably no osteopath who has practiced for very long who hasn't had a woman patient for treatment of a lump in the breast and has corrected subluxations of the third and fourth dorsal vertebrae with their ribs and has seen the lump disappear. Did he cure cancer? Probably not. Did he prevent a cancer? He probably did.

A word of caution here is necessary. I am talking about preventing cancer, not curing it, and when a patient presents with a cancer it should be operated at once, if operation is possible.

It has been my pleasure to care for quite a large number of cases for a number of years. Many are under my care now who started with me over twenty-five years ago. While this number is not large enough to prove anything in regard to the value of osteopathy as a prophylactic measure in the treatment of cancer, it is interesting to note that I have never had a case that has developed cancer after having begun treatment.

I would be glad to hear the experiences and opinions of as many of the older practitioners as possible, and it may be that we can get enough data together to be of some value.

H. H. FRYETTE.

## PROPHYLACTICS

I reread your editorial "Causative Factors in Cancer." If the present trend of opinion is correct, that lymph stasis prepares the way for abnormal cell growth, then the logical conclusion would be that osteopathy has much to offer in prophylaxis. When I made my trip three years ago for the western circuit I stressed the fact in all my talks that osteopathy is the only system of therapeutics that has anything definite to offer in genuine prophylaxis. I have been much impressed lately by the truth ofthis statement, and I am much interested in your new application of the idea in regard to cancer.

It seems to me that this matter should be given much publicity in our journals and the R. I. Bulletin, and that a real effort be made to gather all the data possible. If we can show that osteopathic care through the years tends to avoid malignancies we certainly will not only be forwarding osteopathy in making it public, but will be conferring a priceless boon to humanity.

ARTHUR D. BECKER.

## EARLY DIAGNOSIS AND CLINICAL RESEARCH IN CANCER

There is no diseased condition of the human body more important than that of cancer. It is a subject about which a great deal is known, but it is a condition the cause of which is still, to a great extent, shrouded in mystery. Comparatively little of what is known can be put into use because we are still ignorant of the etiology.

True, there are many suggestive conditions which arouse our suspicion regarding the role they might play in exciting the development of cancer, but none of these conditions is demonstrable in all cancer cases; so that when they are put on trial, evidence is only circumstantial and never sufficient to sentence any of them as the chief offender. No attempt is intended, by this assertion, to minimize the role they may play as accessories after the fact—to use a legal phrase—because of the assistance they may contribute to that undiscovered cause that allows or produces a cancer.

In the light of our present knowledge there are two points concerning the cancer problem with which every osteopathic physician should be familiar: One is to be ever alert to recognize the earliest evidence of the presence of a cancer.

The time of the first visit to a physician is of the utmost importance in the cancer patient's history; for, while he may be advised wisely he may be the victim of three serious dangers: The physician's undue optimism, his carelessness, or his lack of knowledge of cancer in its early stages.

The first of these dangers, undue optimism, is, perhaps, due to the doctor's habit of allaying the patient's fear. He is led to minimize the importance of symptoms which, at best, are none too pronounced.

The second danger is carelessness on the part of the physician. Either through habit or because he is busy, he hurries through what should be a well-ordered investigation. No detailed history is taken, no attempt made to elicit other symptoms not told or noted by the patient, and only a hasty examination is made. A cancer is not recognized. Both the patient and the doctor fail to recognize the seriousness of the apparently unimportant symptoms.

The third danger is the physician's lack of adequate knowledge concerning the early stages of cancer. He does not recognize suspicious early subjective symptoms, and he does not look for early objective signs. As a result, valuable time is lost and a human life may be the forfeit.

The second point of importance in the cancer problem, which applies particularly to the osteopathic physician, is the duty he owes his profession and the public. He should carefully examine all cancer patients for the spinal lesions which may be an influencing factor in the cause of cancer.

Has an osteopath ever discovered a case of cancer in which there was no osteopathic lesion that was detrimentally influencing that part of the body in which the cancer lesion was located?

Would it not be a simple matter for each physician to record his findings, and might not the results of this clinical research work be of inestimable value?

H. L. Collins.

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## CAUSATIVE FACTORS

"Cancer has caught civilization without an adequate defense," says Dr. Gilbert Fitzpatrick. Has osteopathy anything to offer? Are we giving this subject the scientific consideration indicated?

We are encouraged to believe that a percentage of our profession are thinking of and reacting to the question of *causative factors of cancer.* When this dread disease is taking a toll of one every five minutes, an average of one hundred out of every hundred thousand and has been increasing constantly, when the rates have jumped from 75 to 114 per hundred thousand fatalities in the last few years in many of our large centers, when research laboratories and the best authorities in the medical world have little to offer in the way of remedies or prevention, should not this question warrant more specific study from the osteopathic profession? Perhaps osteopathy may have some contribution to offer. Osteopathy had much to offer for the flu plague and in all pneumonia and fever conditions it is a specific remedial factor.

Recently one of the cancer authorities in the medical field stated, as you read, that from his research *lymph stasis* is the most pertinent causative factor and that any organ or part is subject to cancer inversely to the vigor of the circulation of the vital fluids of that part. If this be true and if the teachings of the Old Doctor and thousands of his followers are in keeping with this idea, may it not be well to ask the whole profession to observe, study and report, in an endeavor to arrive at more definite conclusions regarding the subject of cancer from an osteopathic viewpoint? Or shall we sit supinely by, silent and apparently indifferent, while others pre-empt the old homestead?

It was this thought that inspired a little editorial in the July Journal which called forth a recent article by Dr. Trenery in the *Western Osteopath.* (See reprint in this issue.) We think a rereading of the editorial itself may give a better idea of its purpose than does the reference to it in the article mentioned. There is a tendency among many of us to underestimate rather than overestimate the merits of osteopathy. The editorial did not state that osteopathy is a cure. Nor did it intimate such; and we hope no doctor would be led to arrive at such conclusion. The editorial concludes with this statement: "If these things be true, here is something to think about."

Do we believe enough in osteopathy? Do we know enough about it? Have we begun to measure its compass and power? A writer said not long ago, "More people are injured by believing too little than by believing too much." That noted scientist Huxley puts it: "He who is not willing to go beyond the facts in his work will seldom go as far as the facts." We believe in being cautious about all claims for osteopathy but we can be so ultra-conservative that we almost lose touch with it altogether. In a large number of disorders osteopathy is a curative factor and in a still

larger number it is logically a great prophylactic.

Was it not commonly noted during flu times that few of our regular patients came down with the flu, or, if they did, how light was the attack and how readily they recovered with little or no sequels? The medical world is beginning to believe that it is not necessary that children have the childhood or other infectious diseases. We are beginning to understand that if we keep the body normal and hygienic we can lessen very greatly the tendency toward all diseases.

And now, come authorities like Handley of the Cancer Research Institute of London, a surgeon in the Middlesex and other hospitals, emphasizing what is virtually one of the most vital statements of Dr. Still, "the rule of the artery is supreme" and further, that "one can tell when any disease begins by knowing when the circulating fluids of that part are disturbed." When such authorities as this, along with Sir Arbuthnot Lane of London and others, are corroborating Still, Lane, Clement Whiting and numerous others, is it not fitting that we give more consideration to this subject? Dr. Emery in a series of articles has emphasized some of these facts in his study and has promised others for the next issue, as have Dr. Burns in her research, Drs. Brigham and Becker in their statements in this issue and in their lectures. Must we wait till more medicos from our own land or across the waters come to tell the world of study and research which in reality declares for the potency of our own theory and practice?

What we would like to know is the answer to Dr. Brigham's question at one of our postgraduate courses recently: "What percentage of osteopathic patients who have been cared for through the years have developed cancers or other malignancies, if any?"

Dr. McConnell emphasizes the fact that in very recent years he has had referred to him more than fifty cases of ulcer. These cases were diagnosed and tested out by every possible means—x-ray, food tests, blood tests, as well as palpation—with operation as the only hope. These cases were referred to osteopathy with the hope that operation might be averted. These patients were taken over and treated osteopathically, and in nearly every case the predisposing and causative factors were removed and, according to the subsequent scientific tests, the patients were pronounced cured. We all know the large percentage of ulcer cases that eventuate into malignancies. If cases like these can be treated successfully, what might osteopathy do in preventing such conditions?

Dr. Fryette, looking over his years of study and observation, declares that in the many cancer cases he had opportunity to observe in medical and other hospitals, there wasn't one that did not reveal a positive structural lesion at the enervating segment of the spine. Many others have given corroborative statements from their own experience. It is common knowledge that there are hosts of causes, direct and indirect, that influence the development and growth of cancer: irritations, warts, various skin conditions, abnormal chemistry along with lymph stasis are naturally a very important part of the picture.

We do not underestimate the value of radium and surgery in certain cases, but as one of our best surgeon specialists declares, he has seen so many bad results from medicine and surgery in some of these instances, that unless the surgical and radium technic is just right it better not be done at all. In many cases it seems only to stimulate the growths whose ramifications soon get beyond the surgeon's knife.

Anything that lowers the resistance of the body must, necessarily, be a predisposing factor. A ptosed condition of the bowels and organs of the abdomen interfering with circulation and drainage may be a most common factor. Worry or constipation may be a predisposing factor. Even lack of exercise, sunshine, the right food, all play a part, but an outstanding feature, according to Handley and Still and other authorities, is the interference or blocking, partial or complete, of the vital circulating fluids.

There's life in blood and lymph and when they fail to carry through disease begins.

How much spinal segments have to do as predisposing factors in controlling the circulation, is for every observing student and searcher to consider and make note. Osteopathic physicians usually find them in the enervating segment. We know their effect on the circulation in organs and vital segments of the body.

What can the osteopathic physician offer to the world with relation to cancer? Perhaps little or nothing in the way of cure, except possibly at the very onset, and this may be difficult to determine.

But there can be little doubt that in normalizing structure and stimulating the circulating fluids of the body we help Nature to fight against the inroads of this disease. If the real hope of the world is for a prophylactic, if Handley's statements are true, if Still is right, if we can adjust spinal segments and ribs, help ptosed conditions, remove congestion, irritations, and keep the vital fluids unhampered, normalizing the colloidal state, then osteopathy is to be reckoned within the study of cancer. What other school, theory or method has so much of hope and assurance to offer humanity in the way of prophylaxis against the cancer crisis? Where else are there methods that promise such co-operation with Nature in her crusade against disease, in her battle for life?

## EXTRACTS FROM THE HANDLEY ARTICLE "LYMPHATIC OBSTRUCTION AS A FACTOR IN THE CAUSATION OF CANCER"

(The italics throughout the extracts are our own.—THE EDITOR).

I bring forward some facts and observations accumulated over many years and tending to show that chronic lymph stasis, however caused, is an important factor in determining the onset of malignant growths.

A typical instance of mechanical lymph stasis is the common prolapse of the rectal mucous membrane so often seen in middle-aged persons. The prolapsed fold of mucous is blue and congested from pressure upon veins and lymphatics. In such cases I have not infrequently seen upon the prolapsed fold small papillomata often attached by a narrow base.

These are the first indication of the effects of lymphatic obstruction upon the epithelium.

* * *

It is a fair assumption from this close association between papilloma and carcinoma that the causes which produce a cancer are similar in nature to those which produce papil-

loma, but that to produce cancer they must act for a longer period and perhaps with greater intensity. Now *there can be no doubt that the papilloma is a product of local lymphatic obstruction.*

* * *

What will happen if the central lymphatic is obstructed so that the fluid cannot get away? There is a rise of intercellular pressure. The nutritive fluid is supplied to the strictures of the papilla at an increased pressure. They are, in fact, forcibly fed. The connective tissue papilla is distended mechanically by the fluid, and it increases in length and diameter. At the same time all the cells of the papilla are overnourished and are powerfully stimulated to increase and multiply. A papilloma is the result.

* * *

It is, I believe, true to say that *no papilloma can arise without previous local lymphatic obstruction.* If so, every carcinoma arising in a previous papilloma arises in an area of long standing local lymphatic obstruction, an area subject to prolonged overnutrition combined with auto-intoxication by its own waste products. Histological study then clearly indicates these two factors of overnutrition and auto-intoxication as of outstanding importance in the etiology of cancer. As we have seen, they must be in action over a long period before a cancer results.

* * *

The part where carcinoma most frequently occurs, namely the rectum, is the part where mechanical conditions favor lymph stasis to the utmost. If food poisons were the cause of carcinoma, it would appear that the jejunal epithelium, which absorbs them in a raw state and unmodified by the action of the liver, should exhibit a maximal and not a minimal liability to carcinoma.

* * *

*The liability of an organ to cancer is in inverse ratio to the vigor of its lymphatic circulation.*

Why does lymph stasis promote cancer? My colleague, Victor Bonney, in his study of pre-cancerous changes showed that increased cellularity of the subjacent connective tissue is a practically invariable precursor of carcinoma. This observation must be interpreted in the light of a conclusion at which I arrived many years ago on histological grounds, namely, that the epithelial cell cannot nourish itself directly from the body fluids, but must be in direct contact with a connective tissue cell from whose body by temporary or permanent protoplasmic continuity it sucks its own food. I stated the conclusion in these terms, that the epithelial cell is an obligate parasite on the connective tissue cell. Recently I am interested to note *that Carrel in his studies of the in vitro symbrosis of epithelium and connective tissue has produced experimental proof of the truth of my contention.*

If it be asked why lymph stasis promotes cancer I think the answer must be that by causing overnutrition or forced feeding of the connective tissue cells it promotes increased cellularity of the connective tissue in the area of lymphedema.

*Lymph stasis a consequence as well as a cause of cancer.* It is, of course, familiar fact that cancer, by permeating and blocking lymphatics is a cause of lymph stasis; this is sufficiently proved by the frequency of lymphedema of the skin over carcinomatous growth, by the brawny and swollen arms so often seen in late breast cancer, and by the serous effusions which are such frequent terminal events. The converse thesis, *that lymph stasis is an important predisposing cause of cancer, is, I believe, a new one.* If it be true, the area of lymph stasis which is known often to be present around a cancerous focus may powerfully assist the spread of the disease. It would appear that a vicious circle is present, *that lymph stasis promotes cancer* as much as cancer causes lymph stasis.

If lymph stasis is a cause of cancer, it is clear that *much further work upon the chemistry of that lymph* and upon lymphatic anatomy and physiology is urgently needed. We need to know much more about the lymphatic circulation and about the conditions, local and general, which promote or retard it. The lymphatic system has not attracted sufficient attention either from anatomists or physiologists or physicians, and the main object of this paper is to stimulate interest in it. It is, however, known that overnutrition and thyroid deficiency cause lymph stasis. Hyper-thyroidism, which stimulates the lymphatic circulation, appears to be an almost absolute protective against malignant disease.

It is also known that muscular contraction produces a copious flow of lymph. It seems likely that regular exercise, so difficult for busy people in these days of motor transport, may be an important measure of prophylaxis against cancer.

Although the lymph stasis which precedes cancer is generally a local one due to some chronic local infection, the effects of such a local lymph stasis must be aggravated by any general sluggishness of the lymphatic circulation.

My countrymen are often accused of paying undue attention to games and sports, but the error is one upon the right side. Such games as tennis and golf may be continued with advantage up to the age of sixty and much later if no intermission is made in their practice. I believe that Lord Balfour who must now be nearly eighty still plays both these games.

I should like, in conclusion, to ask you two questions: Is it true, as I am informed, that in this country both men and women give up regular active exercise at about the age of thirty-five? If that is so, the fact may not be unconnected with the present menacing increase in cancer.

## "THE CONQUEST OF CANCER"

Here is a little book of only 83 small pages, written by H. W. S. Wright, M.S., F.R.C.S., with an introduction by F. G. Crookshank, M.D., F.R.C.P.

"The conquest of cancer is now ceasing to become a purely medical problem," says the author. "It is becoming a problem of psychology and education to be solved by publicists, schoolmasters, etc. . . .

"Living right is the best insurance we can make against cancer. . . .

"It is right to call attention to the fact that certain 'uncivilized' races who live healthily and naturally in respect to food, drink and sexual activity do not suffer from cancer."

The author's purpose is to say in a plain way the thing that he sees clearly, declaring that out of a hundred people, ten, in all probability, die of cancer and that seven or eight of those ten could be cured. During the last eleven years in the United Kingdom there were 466,000 deaths annually—43,000 due to cancer, 19,000 males and 24,000 females. In Great Britain one out of every seven died of cancer among persons over thirty years of age.

An English authority declares that an early superficial cancer of the tongue, if it is on the free part of the tongue, is practically curable in all cases. He emphasizes the fact that pain is a symptom only in the incurable or late cancer. Two-thirds of all cases of cancer of the stomach originate in an old gastric ulcer and that the constant eating of hot food is enough to account for the remaining third.

We remember that the Mayos have studied the hot food and drink question and corroborate this viewpoint.

"Although a proper dose of x-rays will kill cancer tissues a smaller dose will stimulate it to further action."

But this authority believes that neither radium nor roentgen rays are solving the problem, nor are they as effective as surgery, if gotten in time. All persons over forty years of age, he declared, should be examined every six months.

The book is published by E. P. Dutton & Company, 681 Fifth Avenue, New York City, and sells for $1.00.

## IN THE FEBRUARY JOURNAL

The editor is glad to announce that after considerable solicitation and many inquiries, one of the special features of the February JOURNAL will be a group of articles on epilepsy and the Conklin method of treating this disease.

An interesting discussion and a brief history of this new treatment will be given by Dr. Conklin. His is one of the several outstanding achievements gained by our profession. An achievement which

has received recognition from sources outside of our profession, "Throughout my years of study, treatment and observation," says Dr. Conklin, "I have become continually more strongly convinced that fasting as a curative measure without osteopathic treatment is not a success." He gives timely warning of the dangers of fasting alone owing to acidosis, etc.

It is most encouraging to note that in cases of epilepsy following pregnancy and in children ten years of age and under, the results of practice have been perfect. While, as the doctor emphasizes, there is still crying need for extensive research in this disease, yet this work has gotten beyond the experimental stage. Not only Dr. Conklin but Dr. Tinkham of Waltham, Mass., and others give positive assurance of success, especially with certain classes of cases, when they are handled by the specific Conklin method.

With this comes a valued article on the "Chemistry of Fasting" by Dr. Haberer of Ann Arbor.

Dr. Tinkham emphasized that along with this work and to make doubly sure of success, "The first requisite to success is sufficient cheer and courage to keep yourself happy and to overflow to your patient. Positive brightness and optimism are more necessary to fasting patients than to any other class with whom we deal. You must never be anything but buoyant in their presence. It is absolutely necessary, too, that all fasting work be intelligently and faithfully done. You must likewise have complete cooperation on the part of your patient. Do not urge him to fast. Wait until he urges you to take him and promises to stand with you to the finish. You will need to use your best psychology to get this idea of cooperation across to some patients; if you fail, do not try to fast them.

"For seven years we have tried to perfect our fasting practice, doing most of our work in epilepsy, with diabetes a close second. In both these diseases we have investigated other methods, only to come back more zealously to that of Dr. Conklin. You can work with real enthusiasm and courage when you know that the process is scientific."

An article from Dr. Charlotte Weaver of Akron, Ohio, takes up the same subject from an altogether different viewpoint, and while not wholly in agreement with others, it has, we believe, material in it of absorbing interest to our readers.

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## AGAIN

All unsigned material appearing in these columns is chargeable alone to the editor, whose name appears at the head of this section of THE JOURNAL.

It has always been the editorial policy of this publication to secure and place in these columns as great a variety of editorials from representative writers in the profession as possible. All such contributions usually approximate the general policy of the association.

However, no growth or progress is made by severe adherence to any dogmatic rule, resolution or limiting policy. Therefore we would encourage, especially in THE FORUM, forthright ideas from every source that, directly or indirectly, may make for a greater and better osteopathy.

Send to this office your best thought—article or editorial, criticism, discussion or news story.

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## OSTEOPATHY, A SCIENCE AND A MEDICAL PRACTICE

The practice of medicine has been defined as the application of knowledge gleaned from the fields of science, to the prevention and cure of disease. Granting that definition will hold, then the practice of osteopathy is properly classed as the practice of medicine, thus placing it in the largest class to which all schools of medical practice belong, and guaranteeing that it shall enjoy all the rights and privileges common to that class. But a definite and clear-cut distinction must be made between osteopathy as a science and osteopathy as a school of medical practice; for it is the latter that is of more concern to the profession and the people when it comes to legal regulations.

The science of osteopathy provides the life, the backbone and the reason for the osteopathic school of medical practice. When thinking of osteopathy as a science, one holds before his attention normal and broken structural relationship within an organism and its bearing upon the health of that organism; but when thinking of osteopathy as a school of medical practice, whose graduates are licensed to treat the sick and injured and required to assume full responsibility for the same, one holds before his attention the therapeutics of the osteopathic school of practice in its entirety, its "backbone" and all preventive, palliative and curative measures that form a part of the treatment taught and practiced by the approved colleges and hospitals of osteopathy. This is the legal meaning of osteopathy and reveals what must be satisfied by any law which undertakes to regulate its practice. All schools of medical practice adhere to their fundamental and distinguishing doctrines, but each school freely weaves into its methods of treatment such aids as may be necessary to complete its therapy, although such aids may be taught and employed by other schools of practice. No one would expect a school of medical practice to confine its treatment to a single remedy, or to the particular practice that distinguishes it from other schools. The homeopathic school is not required by law to confine its treatment to remedies having physiological effects similar to those produced by the disease treated; nor is the allopathic school required to confine its treatments to remedies having physiological effects dif-

ferent from those produced by the disease treated; nor should it be expected that the osteopathic school be required by law to confine its treatments to restoring and maintaining normal structural relationship within the body. Any attempt by law to restrict practitioners of a school of medicine to remedies that do not include all that are taught and employed by the approved colleges and hospitals of that school, handicaps the growth of the school, interferes with medical progress and leads to willful and dangerous violations of the law.

Under similar conditions, men behave very much like other animals. If a herd be turned into a field so restricted in area as not to supply the food necessary to satisfy their physical needs, they will, sooner or later, break their restrictions and run pell-mell over the adjoining fields; but if the area be large enough to satisfy their physical needs, they will not break their restrictions, although the fence confining them may not be exceptionally strong. Overlooking this natural tendency in man, some state laws undertake to restrict osteopathic physicians and surgeons to a field of therapeutics that fails to satisfy their professional needs and, as a result, they are breaking their restrictions right and left, and some of them are running pell-mell over the adjoining fields of drug therapy. But if state laws will permit osteopathic physicians and surgeons to use the remedies taught and employed by their school of practice, they will willingly confine their remedies to the field that is theirs by choice, a field big enough to satisfy their professional needs, including all that is necessary to handle properly their entire practice, thus creating a situation that will encourage scientific development, promote respect for law and remove temptations that result in dangerous violations of the law. While some state laws attempt to restrict, a careful survey of the situation shows that in effect they do just the opposite.

If our profession will make the distinction between the scientific and the legal meaning of osteopathy that clearly exists, and will insist upon laws drawn to satisfy the legal meaning, it will not be long until osteopathic physicians and surgeons will have little complaint to offer in regard to legal restrictions, but the public must be taught that distinction and the legislators must be led to see it when pondering over the bills submitted to them.

B. C. MAXWELL.

## DON'T MISS THEM

If you want to find another group of high type, enthusiastic, responsive students, just drop in unawares on the Philadelphia Osteopathic college.

The dean there and his coworkers show you every courtesy and you will have an opportunity for gaining some inspiration from that student body. Nearly 100 in their freshman class alone.

Women are frail too; Aye, as the glasses where they view themselves.

MEASURE FOR MEASURE.

Life is a never-ending succession of problems, ever presenting themselves for solution.

## WERE YOU EXAMINED AT DENVER?

Few realize the amount of labor and interest involved in the work of examining the doctors and patients at the Denver Convention. As a member of the Examining Committee, I wish to explain why the reports of this department have been delayed in reaching those who were examined.

According to instructions, the examinations in my department were completed as nearly as possible under the existing conditions. My instructions were that these records were to be left in Denver in charge of the departments, who were to send them to the various people or doctors who were examined. I am not sure that this has been done, as I have received a few complaints, and I wish the profession to know that I, as one of the doctors who had charge of a department, was not responsible for this delay.

Just lately I received the entire mass of reports with roentgenograms and if those whom I examined will have patience I will complete the work which should have been finished last summer.

FRANK P. WALKER,
Mercy Hospital and Sanitarium,
9th and Faraon Sts., St. Joseph, Mo.

## OSTEOPATHIC PHYSICIANS WANTED

From the far isles of the sea and from nearly every country this office continues to receive requests for osteopathic physicians.

The last is an inquiry for an osteopath in Havana, Cuba. Some patients are going to that city to spend the winter and we know no osteopaths there. If anyone does, kindly inform this office.

This only suggests that we need thousands more to supply the immediate need and the only way we can solve this problem is by doubling our student body.

## A NEW DISTRICT SOCIETY AT WORK

This seems to be the year for starting things. It might well be. If anything fine and outstanding for osteopathy is to be started, surely no more propitious time than this Centenary Year. New clinics are opening, new educational campaigns are ventured, new societies are being formed.

One of the most recent ones is that at Grand Rapids, Michigan. Twenty people sat down to the table in that beautiful city—the furniture capital of the world. It was a delightful banquet with Dr. McLravy in the chair.

It is a hopeful sign when we find the young doctors beginning to take responsibility, and it is just as hopeful to see this cordial backing they are getting from the older practitioners. Together we can move the world.

This is but one of the beginnings of bigger things in Michigan. The editor of the *Michigan Bulletin* came over from Detroit to be present at the meeting, and numerous others from outside the district.

Programs are being planned and osteopathy will have a forward push this Centenary Year unless all the signs fail in Michigan.

Michigan invites still more doctors. The State Osteopathic Association allows new graduates free membership. Second-year members are changed only $5 and third-year members and all reciprocity are charged a $10 membership fee.

Those present at the meeting were Drs. Margaret Thompson, L. Verna Simons, J. C. Simons, Winifred McLravy, Wm. H. Bethune, Ivan Taylor, F. Hollingsworth, D. M. Foot, R. L. Hobart, Cecil Warner, R. V. Gladieux, Mrs. R. V. Gladieux and John G. Gregory of Grand Rapids; Mrs. C. F. Gregory, of Battle Creek; Dr. C. B. Root, of Greenville; Drs. H. E. Watkins, R. L. Riley, Wm. C. Chubb, of Muskegon; Dr. Bernadine Shefneker, of Detroit, and the A. O. A. secretary-editor.

**Are Your Dues Paid?**

**Your answer decides whether you will appear as a member or non-member in the Centennial Year Book**

# Department of Professional Affairs

ARTHUR D. BECKER, Chairman
916 Joshua Green Gldg.
Seattle, Wash.

## HOSPITALS AND SANITARIUMS

GEORGE M. LAUGHLIN, Chairman
Kirksville, Mo.

### TULSA, OKLA.

Dr. C. Denton Heasley, osteopathic surgeon, has purchased the Ellwood Hospital of this city, which has been operated as a private medical institution for the last year. The hospital has standard equipment and the present location will be used temporarily. A staff will be organized at once and osteopathic nurses will be used exclusively. This move will give the numerous osteopathic physicians an opportunity to render more efficient service to their patients. The institution will be known as the Tulsa Osteopathic Hospital.

### DR. WOODBURY HEADS OSTEOPATHIC UNIT

Dr. George W. Woodbury, 702 Des Robles Place, Alhambra, Calif., has been appointed superintendent of the new osteopathic unit of the Los Angeles County Osteopathic Hospital, announces the Alhambra *Post-Advocate*. Dr. Woodbury suffered for a long time as the result of x-ray burns, but he is now almost completely recovered.

### MERCY HOSPITAL LOWERS CHARGES FOR WELFARE BOARD PATIENTS

Dr. F. P. Walker, owner and manager of Mercy Hospital, St. Joseph, Mo., says the St. Joseph *Gazette* of December 14, proposes to care for welfare board patients at a rate of $1.25 a day for each patient, with doctors' services free, at the monthly meeting of the welfare board on December 13. In his proposal, Dr. Walker figured he could save the welfare board a total of about $2,000 a year—about $750 on the regular rates and $1,200 on doctor's salary.

The welfare board, continues the *Gazette*, is now paying $1.43 a day for each patient at Noyes Hospital, and the medical supervisor of the board receives $100 a month. Besides supervising all medical cases of the board at the hospital, the medical supervisor also conducts clinics at Patee community hall. No fees are paid to physicians for any operations, as all such services are furnished to the welfare board free of charge by specialists of the Buchanan County Medical Society.

Dr. Walker's proposal was placed on file for further consideration by the board.

### SITE CHOSEN AT LANCASTER

The site chosen for the new hospital by the Lancaster (Pa.) County Osteopathic Hospital Association is the one at the southeast corner of Cottage avenue and East Orange street, mentioned in November issue. The site is 210 by 215 feet, and surrounded by trees—an ideal location. Preliminary plans for the structure are now being drawn up by M. R. Evans, architect, and work is expected to start towards the end of December.

The officers of the association, elected at the organization meeting in September, are: Fred A. Wiker, president; S. Kurtz Zook, vice-president; Herbert C. Miller, secretary; Paris F. Snyder, treasurer.

### STRAIGHT FROM THE SHOULDER

The following circular letter, signed by Dr. E. T. Abbott, president, and Dr. C. B. Rowlingson, secretary-treasurer, of the California Osteopathic Association, has been sent to Bishop Charles Wesley Burns, the pastors and officials of the Methodist Episcopal Church (in California), and the officials and members of the Woman's Home Missionary Society Southern California Conference:

> Under date of July 11 last, Charles Wesley Burns, Bishop of the San Francisco area, addressed to members of the Methodist Church a letter regarding the Methodist Hospital of Los Angeles. This letter was read July 19 before the annual convention of the California Osteopathic Association in San Francisco. By vote of the convention a resolution was passed and the officers of our Association were instructed to answer the letter.
>
> We, as members of a large profession in California, protest certain statements in the letter as being misleading. The letter says, "This hospital is yours," yet members of the Methodist Church who employ osteopathic physicians are denied the services of these physicians while in the Methodist Hospital.
>
> Another statement made in the letter is, "This hospital is our Lord's. Its service is unto Him." We protest this statement as appealing to the emotions of our constituents without telling them the entire truth; for osteopathic physicians are denied membership on the attending staff, and are thus not allowed to practice in the hospital. We do not believe this would be our Lord's standard of service.
>
> As a profession we protest the use of the church and of the church pulpits to obtain funds for an institution from which hundreds of our constituents are barred. Of the latter fact they are kept in ignorance; they give of their means because they are not told the entire truth, and they believe they can have the service of the hospital and at the same time have their own physicians—which is not the case of their physician is osteopathic.

# Public Affairs

JOHN A. MacDONALD, D.O., Chairman
160 Newberry St., Boston

## BUREAU OF CLINICS

VICTOR W. PURDY, Chairman
725 Caswell Bldg., Milwaukee

### YOUR OPPORTUNITY

There are many ways in which you can go about getting a clinic started. As stated before, you should first appreciate the real need of such humanitarian work among the underprivileged. You should be prepared, both by training and equipment, to render the best service possible in any and all conditions presented.

To conserve your energies and time there should be someone, or a group of people, who will look after all details, thus leaving only the technical work to you. In order to keep alive the work you have entered upon there should be the right sort of publicity given to the clinic.

Visualize to yourself what this New Year would mean if you could organize and carry through a children's clinic. Of course it would involve work and sacrifice of time, but what greater reward could you ask than the undying gratitude of the little ones to whom you have given a proper start in physical development?

There is much good that we do that we are not aware of, because we are not put in a position to learn the facts. In other words, we often fail to follow up what has gone before. This should be an important phase of clinical work, a work that your aides should do—visiting the homes of the little patients. By the interest thus shown in them, their hopes and ambitions can be rekindled.

Some of our members have featured definite programs in their clinic work and from year to year have developed new phases. For instance, a scout troop can be taken in hand for development, outdoing other troops in physical attainments. A babies' clinic would give one, so prepared by special training and interest, an unlimited field for further progress. And what a boon to any community would such an effort be. Certain definite types of cases could be specified as your field of interest, e.g., infantile paralysis, spinal curvature, defective vision in children of school age, abnormalities, malnutrition, and any of the many other groups we might mention.

There is one group of cases which would cover most any of the disturbances which have their beginning in early childhood, and that is faulty posture. You could teach your clinic patients the effects of poor posture, the symptoms of which are due to muscle strain and fatigue and early visceral ptosis. From these the patients may

complain of "feeling achie." They tire easily, are nervous, can't sleep sound, find it hard to concentrate and therefore make poor headway at school. We must break the slouch habit. All malnourished children have atrocious postures.

Children underweight show one or all of the following static defects:

1. Exaggerated dorsal spine, round shoulders and forward head.
2. Exaggerated lumbar spine, with protruding abdomen.
3. Functional and structural scoliosis.
4. Pronated or flat feet.
5. Skeletal signs of rickets, including bowlegs and knock-knees.

Many of our clinics are giving corrective exercises to this type of patient, in addition to specific osteopathic treatment, diet, etc., and when handled in a group, as can well be done, it can be made a distinct feature of your clinic work.

Through this one channel much ethical publicity can be obtained and the patients soon see the worth of the work done.

NORMAL SPINE WEEK

Again we direct your attention to Normal Spine Week, which will be observed in March. It is the one time when throughout the ranks of our profession a special week is given to the holding of children's clinics certain hours each day, radio broadcasting, public lectures and other features, all of which proclaim our ability and desire to be of service.

VICTOR W. PURDY.

## INDUSTRIAL AND INSTITUTIONAL SERVICE BUREAU

E. CLAIR JONES, Chairman
N. Queen and Orange Sts., Lancaster, Pa.

CHARLESTON, ILL.

Dr. Louis J. Paul, Charleston, Ill., reported in November that he had succeeded in organizing an athletic club, although it was only six months since he went to reside in Charleston.

## BUREAU OF PUBLIC HEALTH AND EDUCATION

WARREN B. DAVIS
Chairman, Los Angeles, Calif.

We are progressing a little in getting books on osteopathy, and the OSTEOPATHIC MAGAZINE, into public libraries.

A committee appointed by a local society in one of the largest cities in the United Staees found that there was nothing on osteopathy in the public library of that city, but that *Medical Follies* and *Hygeia* were there. From now on there will be osteopathic literature in the libraries of that city. What about *yours?* Ask your office secretary to telephone *your* public library and ascertain what literature is there on osteopathy.

"What is osteopathy? What is the difference between osteopathy and other systems?" These questions are asked of us so often that if we were to answer them as they should be answered, we would have much less time for work and play. When a man asks me these questions at the club or anywhere out of the office, I always reply that it would take too long to answer but that I would be pleased to place his name on our mailing list for our OSTEOPATHIC MAGAZINE, with no expense or obligation to him, and then I endeavor to turn the conversation to other subjects. The OSTEOPATHIC MAGAZINE can "sell osteopathy" in a dignified and professional way, and the person who reads it in his home and at his leisure will get a much better idea of osteopathy than he could possibly get from a hurried explanation from a D.O.

The same is true of the person who comes to the office for the treatment of, let us say, lumbago. To go into a detailed explanation of osteopathy and how osteopathy benefits other conditions than lumbago would require talking to that patient all the time the treatment was being given, and we all agree that the least said during a treatment the better. We have not time for explanation after the treatment, and the patient goes away believing that osteopathy is fine for lumbago but without the slightest idea that it is good for influenza or any acute disease. This is why we place his name on the mailing list for the OSTEOPATHIC MAGAZINE. This applies to the osteopathic physician who has all he can do, as it conserves his time and energy, and it also applies to the one who is endeavoring to build up a practice.

The busy D.O. cannot afford the time to explain osteopathy, so he has the OSTEOPATHIC MAGAZINE do it for him; the D.O. who desires more patients does not want to give the impression that this is his only patient for the day by lecturing an hour or so on the merits of osteopathy, so by far his best chance for a larger practice is through the OSTEOPATHIC MAGAZINE.

W. B. D.

## NATIONAL AFFAIRS COMMITTEE

C. B. ATZEN, Chairman
408 Omaha National Bank Bldg., Omaha, Neb.

IDAHO

Communication comes from Dr. O. R. Meredith, Nampa, Idaho, to the effect that the profession there is to carry the case of Dr. W. H. Lambing vs. County Commissioners of Twin Falls to the Supreme Court.

WEST VIRGINIA

Dr. James B. Eades of Bluefield, West Virginia, submits the following query: "Can a physician of one school of practice testify against the methods used by a practitioner of another school?"

This question was answered by Attorney Herring to the effect that one school of practice cannot testify against the methods used by another. He also submitted a number of court citations in corroboration of his opinion.

DISTRICT OF COLUMBIA

The practitioners of the District of Columbia have introduced a Bill known as H. R. No. 16, by Gibson, to regulate the practice of osteopathy in the District of Columbia.

This committee has been unable as yet to secure a copy of this bill, therefore cannot give an abstract of its contents. This will appear in the February issue of the JOURNAL or as soon as we receive a copy.

Another Bill of importance is H. R. No. 7, by Reed of New York, to create a Department of Education, and for other purposes. As soon as we are able to secure a copy of this bill it will also be given in abstract form.

H. R. No. 5763 to regulate the practice of chiropractic in the District of Columbia, is likewise of interest to the profession.

We have tried to get a copy of each of these bills but have not had time to get a reply from Washington.

NEBRASKA

Dr. Morris Fishbein, editor of the *American Medical Association Journal,* was in Omaha and made a wholesale denunciation of everything in the healing art other than the allopathic system of medicine. Dr. Fishbein was answered in a newspaper article by the writer, as chairman of the National Affairs Committee of the A. O. A.

C. B. A.

## INFORMATION AND STATISTICS

RAY G. HULBURT, Director

### MEDICAL PUBLICITY

PUBLIC LEARNING TOO FAST FOR DOCTORS

The health education of the public has gone forward much faster than the medical profession could keep up, in the opinion of Dr. Donald V. Armstrong,[1] assistant secretary of the Metropolitan Life Insurance Co. He comes to this conclusion from a study of the correspondence coming to that organization from policy holders.

Dr. Armstrong believes the people have decided that periodic health examinations are a good thing, but they doubt the ability of the average medical practitioner to conduct such an examination as it should be done. He finds also that the people are interested in some method of providing postgraduate instruction for the doctors, and

in standardizing their licensing and following them up with periodical registration.

The popular demand for more scientific medical service is not bad, Dr. Armstrong feels, if only the medical profession will speed up in preparing itself to handle the situation. But as he looks at the result of the health education of the public to date, there is a serious qustion in his mind as to whether "popular health pedagogy in schools and out is technically sound." He feels that "the great volume of health instruction" ought "successfully to immunize the mass of people against the attacks of the cults," whereas in fact the people go right on "shopping around" among the so-called "regular" doctors with unsatisfactory results, and then trying something else. He wants in some way "to inhibit the growing discontent and disillusionment with reference to the medical profession." (Whether he meant to say disillusionment, we do not pretend to say.)

### DENTISTS FAIL TO TAKE ADVANTAGE

A dentist, Dr. Harris R. C. Wilson,[3] seems to feel that the dental profession also is failing to keep up with public educational possibilities. In the schools of Cleveland, Ohio, the routine procedure is to examine the mouths of all children from kindergarten to the sixth grade, inclusive, and to send notices to the parents, after such notices have been used as a basis for a mouth hygiene lesson by the teacher. But after the interest of the child, the teacher and the parent has thus been obtained, Dr. Wilson finds that "it is most difficult to educate the dentist to any great enthusiasm for the care of young children. Such service is rarely lucrative and frequently is attended with much exasperation and loss of time and patience."

If the doctors and dentists don't keep up with the procession, perhaps the nurses will. And the public health nurses as a rule are, of course, strong for the old school doctors and for more or less promiscuous surgery and universal immunization against a growing list of diseases. Miss Borah,[3] public health nurse at Harriman, Tennessee, found no hospital facilities in that town of 6,000 where she believed that many school children greatly needed to have their tonsils removed. So she saw the doctors, interested the women's clubs, raised the money and got a clinic started where there were seventeen tonsillectomies the first month, and the work keeps going.

### PLANS FOR HEALTH COURSES IN SCHOOLS

Whether the doctors and dentists catch up with the procession or not, health education in the schools and out is here to stay—and to grow and develop. In public schools, colleges and universities, health education of a sort is being disseminated, whether the teachers are prepared or not. Dr. Clara Edna Hayes[4] of the South Dakota State Board of Health, interested also in the work of the South Dakota Education Association and the Parent-Teacher Association, has pointed out a vital problem as she sees it. A committee of the State Education Association is working on a course of health education adapted to all the grades from the primary through the high school. Yet the adoption of such a course will be largely futile, she says, until the proper authorities are convinced of the importance of requiring adequate training and health education of every man and woman who is granted a certificate to teach. A course must be provided for all teachers, she believes, that will impress them with the importance of health matters to such an extent that they will be as interested in teaching health as they are in teaching reading, writing and arithmetic.

An entire session at last year's convention of the American Public Health Association was devoted to the discussion of teaching college hygiene. Dr. Sundwall[5] of the University of Michigan pointed out that "the average college course in hygiene is presented in an unconvincing manner to an uninterested or even antagonistic group of students . . . inoculated with or against [the topics] while in the elementary and secondary schools." No reform in the teaching of college hygiene can be anticipated, he said, until the teachers are familiar with the normal, vital processes, having been trained in physics, chemistry, biology, anatomy and physiology, in addition to which such teachers "need a working knowledge of pathology and bacteriology."

### VACCINATION AND INOCULATION TO COUNT

"Concurrent with the knowledge which college students gain in the hygiene course," he said, "relative to the structure, functions and care of the human body machine, to emphasize and inculcate health habits the students should be required to practice certain of the important health factors—including a health examination, prevention and correction of defects, if found, proper nutrition, sound methods of study, regular habits which conform with physiological processes; and, in connection with disease prevention, the specific prophylactic measures we now have for the prevention of certain communicable diseases—vaccinations, inoculations, etc. These should be recorded on the score sheets of health conditions and habits. This 'doing health' and the records thereof should make up an important part of the laboratory side of the course."

We should expect the record of vaccinations and inoculations undergone to count as a vital part of the student's record, in the minds of a large class of those promoting this kind of education.

Bleeker Marquette,[6] executive secretary of the Cincinnati Public Health Federation, has recently described in some detail the health work being done in Cincinnati and Hamilton county by the voluntary health agencies in cooperation with the county health department. He is glad to know that over 90 per cent of the school children have been successfully vaccinated against smallpox. Efforts are made to encourage immunization against scarlet fever and diphtheria. The part-time dentist employed by the county last year examined 1,512 pupils and the nursing staff endeavored to see that the children received the dental treatment recommended.

The work of the private health agencies in Cincinnati, as well as that of the city and county health departments and the hospitals, is correlated by the Public Health Federation—the health branch of the Community Chest. The health educated public in Cincinnati expects that the medical branch of the local government will some day catch up, for "It is the announced policy of the Public Health Federation that the work of private agencies shall be turned over to public departments at such time as funds shall become available and as public departments shall be so organized as to carry on the work with reasonable efficiency."

### OSTEOPATHY DISCREDITED IN TEXTBOOK

Just as it is to be expected that wholesale vaccination and immunization shall count for credit in the course, so also it is to be expected that some of the courses in hygiene shall contain material directed against osteopathy. Students in teachers' colleges, for instance, are still being misled by the discussion of osteopathy in Williams'[7] textbook, which has once or twice been mentioned in this Journal.

The present director of information of the American Osteopathic Association remonstrated with the publishers on the appearance of both the first and the second editions of this book. Later, Dr. George M. Laughlin took it up and they made certain changes in the text. The reader is still left to gather a very wrong impression of the principles of osteopathy and the preparation of its practitioners.

The book used to say: "It would seem that osteopathy could advance its position in the professional and scientific world if it could present a series of clinical cases of malaria (diagnosed by demonstration of the plasmodium malariæ in the blood), of syphilis (diagnosed by the Wassermann test made in an accepted laboratory), and of diphtheria (diagnosed by demonstrations of Klebs-Loeffler bacilli) cured by manipulations. It should be noted that osteopathy in its insistence on anatomic malposition as a cause of disease presents a limited truth."

This was rewritten thus: "It would seem that osteopathy could prove its position in science with reference to the universality of its doctrine if it could present," etc. . . . But osteopathy today does not rely upon manipula-

tion to treat such conditions. Thus, it presents a limited and not a universal truth."

The old book said: "Truth and fact should be accepted whether they fit the theory or not. Tubercular meningitis may disrupt osteopathic theory, but it is a fact of life."

This was changed to read: "Truth and fact should be accepted whether they fit the theory or not. Efforts to substantiate a theory are not as helpful as seeking the facts."

Between these paragraphs, there was a reference to "the scientific physician," which was changed to "the competent physician," as distinguished from a practitioner of osteopathy.

A paragraph relating to surgery was left unchanged as follows: "The tirade against overzealousness in surgical practice cannot justify osteopathy as a means of treatment of disease. To operate too soon or too often is quite as bad as to operate too late or too infrequently. Surgical judgment is a human quality; it does not belong to any school of healing."

The slur as to education was changed somewhat. Originally we were told: "Osteopathy is to be judged, even as chiropractic, Christian Science, or medicine, by the provisions made for training of its students, by the scholastic standards maintained, by the scientific character of its work, and finally, by the ethical standards of the profession.

"Life to most persons is too precious to be lost needlessly. The osteopath treating with manipulations an ignorant person suffering from diphtheria when antitoxin is available, or 'adjusting' for syphilis when arsphenamin is known, assumes a responsibility that cannot easily be discharged."

This was changed to read: "It should be noted that in recent years osteopathy has raised much higher its standards of professional training. . . . Osteopathy may believe for some time, even in spite of better training today, that a person under osteopathic care will probably be able to make in his own body all the antitoxins he will ever need, but with the present efficacy of antitoxin for diphtheria demonstrated it is a mistake to ignore the facts. Life is too precious to be lost needlessly."

The quotation as to the body being able to make its own antitoxin is from a paper prepared by the present A. O. A. Director of Information and submitted to Saunders at the time of the appearance of the first edition of this book, and repeated without change when the second edition appeared. It has been inserted only in the latest printing.

Originally there was a paragraph that read: "The question every patient should ask is: Does my physician use every known and scientific means available to diagnose my condition and treat myself? Or is his mind shackled by an unproved theory, an untenable hypothesis? The sufferer from headache as well as the sufferer from cancer should wish to have such questions answered satisfactorily."

This was toned down to the following: "In the face of conflicting claims every patient should ask: Does my physician use every known and scientific means available to diagnose my condition and to give me the benefit of treatment the efficacy of which has been established?"

### MEDICAL PROPAGANDA MACHINE GOES ON

Those who are busy with the medical profession's propaganda machine are unaware of or indifferent to the condition pointed out by Dr. Armstrong—the progress of the public in health education faster than the doctors are going. They are not stopping their public educational efforts in order to give their own lagging ranks time to catch up with the common people. They are going right on all along the line. The president[9] of the Wisconsin Medical Association says, "The sooner the public is . . . taken into our confidence, the sooner will there be better mutual understanding and cooperation."

And the Wisconsin Medical Society is a leader among the states when it comes to work already done along the line of public education. Its secretary[9] reported to the state press association a few months ago that more than forty daily papers and 225 weeklies were using the press service of the state medical society every week. This included the largest farm paper in the state, with a circulation of more than 110,000 in Wisconsin.

Public health nurses and school nurses, as well as doctors and dentists, are studying the problem of public health education in a practical way and passing along the facts they learn. Miss MacMaster,[10] school nurse at Kirkwood, Mo., in a recent article gave quite a series of newspaper stories just as she had written them and secured their publication, telling the circumstances surrounding the use of each.

At last fall's meeting of the American Public Health Association, there was a group of round table conferences,[11] discussing such topics as slides and motion pictures; the use of the appraisal form of the American Public Health Association; publicity media in city and rural communities; preparation of annual reports, and meetings for broadcasting public health facts. Great interest was manifested and some of the same topics have been taken up since at smaller meetings of public health officers.

For instance, the annual meeting of the New Jersey Health Officers' Association in June devoted its entire program to education, in charge of a committee from the public health education section of the American Public Health Association.[12]

The American Journal of Public Health each month contains several pages headed, "Education and Publicity," in which Evart G. Routzahn gives news and comments on the best examples of medical publicity of all kinds and from all sections of the country.

### IMPROVED UNDERSTANDING BETWEEN MEDICINE AND PRESS

The cooperation of the newspaper world is being sought and secured as shown, for instance, in the action of Mr. Edward McKernon,[13] superintendent of the Eastern Division of the Associated Press, who delivered an address before the annual conference of health officers and public health nurses at Saratoga Springs, N. Y., last June, explaining what news is, how they can help their reporters, how publicity can be secured on its merits, the responsibility of the medical profession and of the press to the public, and how better cooperation between the two can be secured. This address was afterward published in the *American Journal of Public Health*. Of course an address on such a topic by a prominent official of the Associated Press was published quite widely in the newspapers of the country also, which in itself was quite an item of medical publicity.

Such advice and information as this that Mr. McKernon and other newspaper workers have given to the medical profession have helped to bring about a remarkable change in the attitude of many doctors toward newspapers in general and toward the use of doctors' names and doctors' writings in newspapers. This change is well exemplified by a department, "The Daily Press," which runs regularly in the *New York State Journal of Medicine*. Two recent extracts from that department follow:

### EDITORIAL ATTITUDE OF MEDICAL JOURNALS

(May 15, 1927.) The reader of a daily paper can find information on almost any subject. The newspaper is not a medical journal, and yet it contains so much medical news that one successful practitioner of medicine said that he did not take a medical journal because he got his medical information from the *New York Sun*.

The medical news contained in the leading newspapers is surprisingly accurate as to facts. If it is wrong, the fault lies with the physicians who supply the news rather than with the reporters and editors. The newspapers are also wise in their editorial comments on current medical news and in the instruction which they give to the public. The subjects of which they treat have the added advantage of being those chosen by experts in the art of interesting the people. If the daily paper of a large city carries medical news and editorials, one may be sure the items have a human interest to the public.

The newspapers also note the anniversaries of leading medical events, such, for example, as the edi-

torial in the *New York Herald-Tribune*, entitled "A well-remembered leg," in which is recalled the boy whose compound fracture of his leg on August 12, 1865, received the first antiseptic treatment given by Joseph Lister, with complete prevention of the suppuration which had always accompanied such wounds. Where else than in a daily paper would one be likely to find such information?

(July 1, 1927.) Editors of newspapers depend on physicians and leaders of medical societies for medical news and for advice in matters of public health. Physicians do not have to ask for space for medical items. The editors will send for the news, and will put it in readable shape for the doctors. The editors will also show their gratitude by printing the doctor's name more prominently than some of his professional brethren think proper. But the editor must give the source of his information, and the standard way of doing it is to quote information in an interview. The physicians of New York State now make very few criticisms of those doctors who supply educational articles for the newspapers. On the other hand, physicians generally feel that the doctor who has a gift for writing educational articles should exercise it. Physicians are rather proud of one of their number who can write interesting items in the name of the Committee on Public Health of the County Medical society.

The doctor of whom physicians are suspicious is the one who is outside the County Medical Society, and yet gets his name in the paper at every opportunity.

### EXAMPLES OF NEWSPAPERS' ATTITUDE

At the time of the 1927 meeting of the Council on Medical Education, Licensure and Hospitals of the American Medical Association held in Chicago, Mr. James O'Donnell Bennett, one of the most famous newspaper reporters now in the game, covered the sessions and quoted the speakers freely in the Chicago *Tribune*. This series of stories he followed a little later with another series, including a glowing account of the work of the American Medical Association, headed, "Medical Fort Located Here Guards Ethics."

In July, the Washington (D. C.) *Star* showed its interest in public health education by sending a special writer around to be examined and had his condition diagnosed day after day by various unlicensed practitioners. A series of six front page articles appeared, based on the fact that the so-called "regular" doctor was required to have certain qualifications and to pass high tests, while anybody could get out and undertake the practice of osteopathy, chiropractic, naturopathy, iridology or any one of many other methods, without regulation or restraint.

The *Star* was good enough to publish letters from several osteopathic practitioners, showing that the sandards of the profession are high and that legal regulation and protection of the public has been secured in all the states and that proper laws in the District of Columbia have been diligently sought by the osteopathic profession.

### A GLIMPSE OF THE MAGAZINE FIELD

Magazines of general circulation keep carrying more and more material along the line of public health education. Only a few representative examples will be mentioned at this time. Dr. Donald B. Armstrong[14] of the Metropolitan Life Insurance Co., whose article in the Boston Medical and Surgical Journal was mentioned at the beginning of this account, has written a more recent article in which he quoted dozens of the typical questions which come from policy holders to those in charge of the health service of his insurance company. The answer he gives over and over again to all of them and which he would have all of us get, is, "See your doctor."

Beatrice Black[15] had an article dealing with the Schick test and diphtheria immunization, which was approved by the discoverer of the Schick Test, published where it would count for much.

Dr. William Allen Pusey,[16] former president of the American Medical Association, recently discussed "The Problem of Medical Service." In this article, as in many other of his writings, Dr. Pusey insists that the standards of medical education have been put too high. He says: "We may not get back to this four-year education; we may not get the small medical schools that we need. But there is one thing that seems certain, and that is, if we do not, we are headed for dangerous difficulties for which we have now in sight no satisfactory means of relief."

Dr. James J. Walsh,[17] who began attacking osteopathy in a public way more than twenty years ago, has been running a series of articles on the general subject, "Priests and Long Life," in a periodical published for the Catholic clergy. In one of these articles, osteopathy and Dr. Still were freely attacked. Dr. Walsh expressed some of the same opinions here as in his chapter on osteopathy in his book, "Cures," published four years ago.

Dr. Edgar Lorrington Gilcrest,[18] instructor in surgery at the University of California Medical School, has an address, "Medicine Men vs. Medical Men," which is used in the University Extension Division, and has been presented before a number of civic organizations throughout California and also published in a California magazine.

The *Forum* has continued throughout the year a series of articles dealing with modern medicine. Among the subjects treated have been the prevention of cancer, the future of disease prevention, birth control (three articles), the survival of the unfit, what to eat and how to eat it, etc.

Dr. Ruth F. Wadsworth has been running a series of articles in *Collier's Weekly*, in at least two or three of which she has cast slurs upon osteopathy.

Dr. Morris Fishbein continues to write for many different kinds of magazines, usually working in something about osteopathy. An address he gave before the Chicago Association of Commerce was given a full page in *Chicago Commerce* for March 12. "Ethics—Medical and Otherwise" appeared in the *Nation's Business* for February, 1927. "This reducing craze" was syndicated in the magazine sections of Sunday newspapers such as the New York *Herald-Tribune*, on February 27.

### OBJECT TO TOO OBVIOUS FREE ADVERTISING

Occasionally, one of these bits of medical publicity in the magazines strikes a snag. The famous obstetrician, Dr. Joseph B. DeLee[19] had an article in one of the country's leading magazines for women. A string of titles followed his name, a picture of "Mrs. Nicholas Longworth and her charming little daughter, Pauline, who is one of Dr. DeLee's most famous babies," accompanied the article, and there was an offer to send a booklet prepared by Dr. DeLee on receipt of ten cents to cover cost of printing and mailing.

An editorial writer in a strong state medical journal[20] reacted in this fashion: "Dr. DeLee's article . . . brought forth much criticism from many members of the medical profession." It was asked, "Would Dr. DeLee be so solicitous for the welfare of mothers, expectant mothers, and children if he did not receive the advertising that he does in connection with his articles? In other words, if it were announced by *The Delineator* that this article had been prepared by one of the nation's foremost obstetricians, with name omitted, and published under the authority of the American Medical Association, we wonder if Dr. DeLee could have been persuaded to write the article." The editorial writer concluded: "In the smaller cities and towns much criticism is directed toward local doctors who receive, sought or unsought, eulogistic publicity in the newspapers concerning their work, but why should they be criticized when the really great men in our medical profession do the same thing or worse? If we are going to have any rules of ethics, propriety and decency, they must apply to the big men in our profession as well as to the little ones. We need the assistance of the leaders in our profession in this new work of medical publicity, and they should be free to give of their services, but those services obviously should not be tainted with a tinge of self-exploitation."

The views of many doctors as to these points have been well expressed by Dr. Chas. A. L. Reed,[21] once a president of the American Medical Association and later a member of the committee which formulated its "Principles of Ethics." His articles on health and success are syndicated daily in a host of papers in the United States,

Canada and foreign countries. In a recent interview, he said:

"No, I have not 'retired.' I am now practicing 'educational medicine,' I am 'carrying the message to the masses,' as it were. It is true my articles are having a phenomenal run. This, in large part, is due to the influence of the medical profession. You see, I had long wanted to do just what I am now doing. The opportunity came to me unexpected. I saw, however, that newspaper writing could not be ethically combined with a fee-earning practice. Each was entirely ethical within itself but the two wouldn't mix. The combination spelled 'advertising' with the worst form of unfair competition. My practice at the time was distinctly national. But, without hesitation, I announced to the entire medical profession that I would accept no more patients—and I haven't. Now, in spite of the fact that I have never published my home address in my articles—another fine ethical point—I do receive through my many newspaper offices literally hundreds of letters asking for treatment. In no single instance have I ever given it. The experience, however, shows what I mean by 'unfair competition.' On the other hand I have used my articles, now numbering well on to two thousand, to create a higher appreciation of the medical profession by the general public—a better understanding between the two. This is a thing that I have been and am doing much more effectively, so far as publicity methods are concerned, than the profession in any locality can do in its own behalf. It is doubtless in recognition of this fact that, as I know to have been true in many instances, my professional colleagues have asked editors to put on my feature and have thus helped to extend my circulation and influence."

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## STATE LEGAL AND LEGISLATIVE

### OSTEOPATHIC PHYSICIANS AND CALIFORNIA HOSPITALS

A former mayor of Long Beach, Calif., very active in the hospital fight, recently stated (JOURNAL A. O. A., November, 1927, p. 193) that the Murphy Memorial Hospital at Whittier had suffered severely in a financial way since it had been opened to others than allopathic doctors. Dr. Warren B. Davis wrote a letter to the City Council, saying that the total income of the Whittier Hospital for the year ending June 30, 1926, was $55,743.94 and the total expense $55,728.36, leaving a balance of $15.98. The next year, he says the income was $58,002.11 and the expenses $57,962.24, leaving a balance of $39.67. "Surely," he says, "incomes of $55,728.36 for last year and $58,002.11 for the year ending June 30, 1927, do not coincide with Mr. Condit's statement that the Whittier Hospital is practically deserted.

"Mr. Condit has represented to you that the admittance of the osteopathic physicians practically has ruined the Whittier Hospital, but a comparison of the figures will show entirely otherwise.

"Mr. Condit also has made several statements in regard to the Community Hospital saving so much money for the people and how much less the rates were than in other hospitals.

"Ward rates at Community are $3.50 per day; private rooms from $4.50 to $7.50. Ward rates at Seaside are $3.50; private rooms from $4.25 to $7.75. Ward rates at St. Mary's are $3.50; private rooms from $5 to $8.50.

"These figures show that the claims of Mr. Condit are not substantiated by facts, and reckless as he is on figures and statements, I do not believe that even he will claim that the service at Community is any better than at Seaside. And yet Seaside is operated at a reasonable profit on the investment, and Community, according to published statements, is operated at a loss of over $1,000 per month."

### GRAND JURY ASKED TO ACT

The East Bay (Calif.) Osteopathic Society has sent a letter to their grand jury protesting against the barring of osteopathic physicians from holding places on the staff or serving as interns in county institutions on the ground that such hospitals would then be unable to obtain interns from Class A medical schools. The county institutions are supported by taxes, paid by osteopathic as well as allopathic physicians and by many of the laity who prefer to be entirely under the care of osteopathic physicians. It is pointed out, osteopathic physicians fulfill all the educational requirements under the Medical Practice Act and are granted licenses for unlimited practice, which licenses are recognized by the public schools and by the state industrial commission. The legality of the arbitrary and discriminatory rulings of the American Medical Association and its affiliated organizations for the purpose of creating a closed corporation admitting M. D.'s only, in tax-supported institutions, with a boycott as a means of enforcing such rules, has been tested in the case of the Los Angeles County Hospital, the letter insists, and as a result, duly qualified osteopathic physicians are admitted to the staff and also for internships. The Grand Jury is asked to take action to rectify the situation.

### BARRED FROM COLLEGE HOSPITAL IN MICHIGAN

It is reported that the Director of the Michigan State College health service at Lansing has refused to permit osteopathic physicians to attend a patient brought to the college hospital suffering from a slight nervous breakdown. His action was upheld by the State Board of Agriculture.

### PUBLIC HEALTH NURSES IN OHIO

It has been decided to add an osteopathically trained nurse to the division of health in Dayton to serve as a full time employe on cases handled by osteopathic physicians.

Efforts to secure the services of visiting nurses on such cases had been made for several years. Recently the officials of the Dayton District, of which Dr. Warren W. Custis is president, threatened to mandamus the city, and this led to conferences with the city health officer, who stated that the National Organization of Public Health Nurses had voted not to work with osteopathic physicians and that the same action had been taken by the local chapter. It was quickly proved that such action had not been taken locally and a letter was secured from the general director of the National Organization, quoting from page 11 of the Manual of Public Health Nursing, the policy adopted in February, 1922, when the executive committee reviewed and endorsed the previous decision of the general assembly at a regular convention:

"First: That the directors of an association and not its executives or staff nurses shall assume responsibility for the policy of nursing patients under the care of osteopaths and chiropractors.

"Second: That the visiting nurse association be gov-

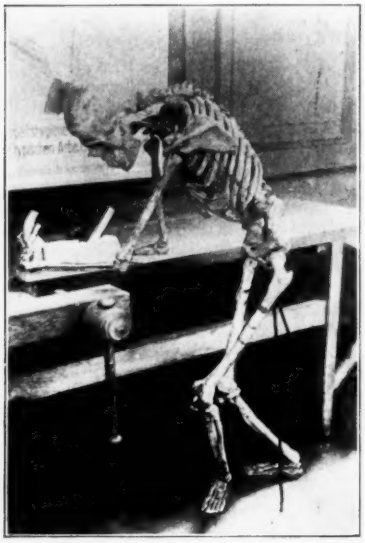
erned in their decision in this matter by the existence or nonexistence of a state law legalizing the practice of osteopathy or chiropractic.

"Third: That the nurses shall limit their services to patients under the care of osteopaths or chiropractors to procedures which are not in any wise dependent on orders or instructions from a practitioner of medicine."

When the decision was made that osteopathic physicians could have nursing service, the city health officer insisted that an osteopathically trained nurse must be provided because those regularly trained did not know how to work with these physicians. That argument was knocked on the head several times, but still it was decided to have a separate nurse. The letter from the Visiting Nurse Association to the Osteopathic Society follows:

"The Visiting Nurse Association has decided to give service to patients of osteopaths who require nursing in the home.

"This service will be general care, which includes bathing, caring for the patient's morning toilet while confined to the bed, alcohol rubs (if alcohol is provided by the patient or physician), soapsuds enemas, and plain sterile vaginal douches. Nurses may not give any treatments involving the use of medicines, this includes nutritive enemas and stomach gavage. They may do minor dressings and care for postnatal cases. Nurses do not attend any delivery or operations.



Berlin is showing an interesting exhibit of the human skeleton at work. It tells the story of the skeleton's reactions in the various activities of the flesh and blood being of which it is the foundation. The "wear and tear" results on the human frame, posture faults, and other interesting facts are also disclosed.

Photo shows planing at the carpenter's bench causes round shoulders and curved spine, if indulged over extended periods.

*Herbert Photos, Inc.*

"We require a written order, or telephone orders to the office from the doctor on the case before care will be given the patient.

"If the patient is able to pay we feel at liberty to ask a nursing fee; if a charity case we will give free service, as the Metropolitan Life Insurance Company and the John Hancock Insurance Company will not pay for any calls to patients where an osteopath is employed, and as the great majority of the Visiting Nurse Association's work is with those insured patients, we cannot carry them, as such, but will ask a nursing fee where the patient can afford to pay same."

Dr. Nellie Shorb at Canton, Ohio, was unable to secure the assistance of a public health nurse on the ground that there was a ruling of the medical profession against public health nurses taking cases for osteopathic physicians. The doctor took the question up with the Attorney-General of the state, who replied that it was a question for the legislature and not for his office.

PENNSYLVANIA'S HEALING ARTS COMMISSION

The Pennsylvania Commission to study the laws relating to the healing art held a meeting in Philadelphia in November, and will gather again in Pittsburgh, January 16 and 17. At its opening meeting, the naturopaths and then the chiropractors argued for separate boards of examiners. Dr. John A. Kolmer, pathologist at the University of Pennsylvania, presented a twenty-eight page brief outlining the objections of the allopaths to such boards. Five reasons in the form of questions sum up the arguments as follows:

"Is it necessary for a healer to have a broad, thorough knowledge of anatomy, the structure of the human body, to treat disease? Is it necessary to have thorough knowledge of physiology—the normal condition of the body, to treat abnormal, or diseased conditions? Is it necessary to know the changes brought about by disease, attained in pathology? Is it necessary to have knowledge of the bacterial causes of disease? Is it necessary to appreciate the value of vaccination and use of serums?"

"OSTEOPATHIC EDUCATION"

The A. M. A. Council on Medical Education and Hospitals has issued an interesting report on osteopathic education as compared with the educational standards of the organized medical profession in the United States. It takes up four and a half pages in the December number of the Federation Bulletin, which can be had by sending ten cents to the Federation Press, 535 North Dearborn street, Chicago.

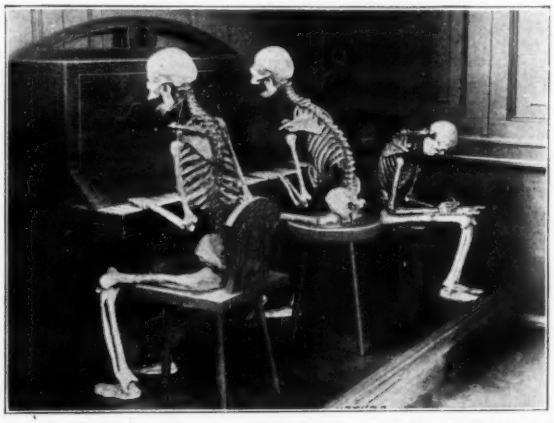
## State Boards

### ARKANSAS

It is announced that Dr. B. F. McAllister, Fayetteville, has been reappointed on the state board of osteopathic examiners.

### FLORIDA

The address of Dr. Lamar K. Tuttle, secretary-treasurer of the board, is Julia Tuttle Hotel, Miami, instead of St. Petersburg, as given in the December JOURNAL.



*Herbert Photos, Inc.*

The right way and the wrong way to sit at the piano, while playing and singing, and the evil results of staying at a tedious task for long periods are also shown in this photograph.

### IOWA

The next examination by the Iowa State Board of Osteopathy will be held at the State Capitol building, Des Moines, January 25, 26 and 27.

Application blanks and other information may be had from the secretary, Dr. D. E. Hannan, 204 Gamble Block, Perry. Applications must be in the office of the secretary fifteen days before the first day of examination.

### PENNSYLVANIA

The midyear examination of the Pennsylvania Board of Osteopathic Examiners will be held at Department

Public Instruction, State Capitol, Harrisburg, Pa., February 6, 7, 8, 9, 1928. Dr. H. M. Vastine, secretary, 109 Locust St., Harrisburg.

### WEST VIRGINIA

The next meeting of the West Virginia State Board of Osteopathy will be held in the offices of Dr. Donna G. Russell, 311 Broad St., Charleston, W. Va., February 13 and 14, 1928.

There are many small cities throughout our state without osteopathic physicians. It is in the small city the physician can secure a practice in a short time. However, we do not recommend locating in any locality unless the doctor is satisfied to live there permanently. It is wise to look a location over personally, study the situation from all angles, before spending time and money in establishing a practice. If a man desired to practice in a large place eventually, it is best to locate there at the outset, and persevere until he becomes established.

The following list of small cities in West Virginia have no osteopathic physicians at the present time:

Kingwood, population 3,000, county seat.
Phillippi, population 2,000, county seat.
Sistersville, population 4,000, rich district.
Logan, population 7,000, county seat; drawing population of 40,000.
New Martinsville, population 4,000, county seat, B. & O. shops and glass factories.
Piedmont, population 4,000, eastern section.
Spenser, population 4,000, county seat—wealth.
Mannington, population 3,900, oil country.
Point Pleasant, population 4,000, in Ohio Valley.
Sutton, population 3,000, county seat.
Gassaway, population 3,000, railroad shops.
Richwood, population 8,000, lumber center.
Montgomery, population 5,000, drawing population.
Ronceverte, population 2,500, shops, hard road to White Sulphur Springs, noted health resort.
Mullens, population 5,000, 25,000 drawing population.
Welch, population 10,000, 50,000 drawing population.
Mt. Hope, population 3,000, 12,000 drawing population.
Princeton, population 10,000, county seat.

When we speak of a drawing population we mean the town is a center for the number of people mentioned. These statistics were secured from a salesman who makes every town mentioned regularly.

Application blanks may be secured from the secretary, Dr. G. E. Morris, 542 Empire building, Clarksburg, W. Va.

### Endocrine Glands and Crime

This gland (thymus) gradually diminishes in size, until at puberty it is practically atrophied. In some cases, however, it may persist even until old age, and it is with this type that we are interested here.

In the anatomical laboratory of the West Virginia Medical School, Morris has made a study of 192 bodies sent in by various public institutions throughout the state. Of these bodies, 172 came from insane hospitals, tuberculosis sanatoriums, almshouses, and various undertakers, and twenty came from the State Penitentiary. In these 192 cadavers, Morris found twenty-one persistent thymus glands. Twenty of these twenty-one glands were removed from the twenty bodies of criminals sent in by the State Penitentiary. These criminals were all first or second degree murderers with the exception of one who was a rapist. Seventeen were first degree murderers who were executed in the State Penitentiary, while three died awaiting execution. The remaining one came from the hospital for the insane.

Since the conduct of a person is a result of all the impulses causing him to act and of the inhibitions causing him to pause and consider before acting, it is evident that there are two kinds of actions, one in which the impulses to act predominate—impulse action—and one in which the inhibitions predominate—premeditated action. From the findings in the series of cases just described there is but one logical deduction, namely, that the persistent thymus is in some way accountable for the mental state in which the inhibitions are interfered with and held in abeyance, thus leaving the individual the victim of uncontrolled impulses which cause him to commit crimes without taking into consideration the consequences. Furthermore, in the case of persistent thymus, the crime to which the individual is most predisposed is the taking of human life.—H. Lyon Hunt, M. D., L. R. C. S. (Edin.), *Med. Rev. of Revs.*

## Problems of the Profession

### ETIOLOGIC FACTORS IN CANCER*

FLOYD J. TRENERY, D.O.
Monte Sano Hospital, Los Angeles

In the July issue of the JOURNAL of the A. O. A. (page 916) there appears an unsigned editorial which I believe calls for constructive criticism and comment in order that those who read it may have a broader conception of the more recent and, in my opinion, the more logical ideas as to the cause of cancer. The article as it stands might lead an unthinking reader to believe that the osteopath has in his ten fingers an unfailing cure for cancer. This we all know is untrue. I know of no proved case of cancer that has been cured by osteopathic manipulations alone. The cure of cancer depends upon its early recognition and the early application of proved methods of surgery and radiation. More recently chemotherapy in the use of certain colloidal metals offers a new hope.

The writer of the editorial quotes W. Samson Handley, F. R. C. S., as "discovering" that lymph stasis may be a cause of cancer in that it results in "overnutrition or forced feeding of the connective tissue cells," promoting "increased cellularity of the connective tissue in the area of lymph edema. Overnutrition and thyroid deficiency produce lymph stasis. Two factors, overnutrition and autointoxication, are of outstanding importance in the etiology of cancer."

In order to be entirely fair to Handley, we should not pass judgment until we know him better. One of the greatest minds in British medicine, he made this statement (or one very similar) as early as 1914, but added that along with other factors the irritation produced by increased cellularity of connective tissues and the resultant *lowered nutrition* and *oxygen starvation* were the immediate causes of cancer growth. In his writings, Handley has done much to give the world a better understanding of cancer—for which we are all greatly indebted to him.

We all understand that lymph stasis infers a slowing down of the circulation of lymph, but our ideas are rather vague as to just why this occurs so unsuspectingly in the uterine cervix, the rectum, the stomach, the breast or upon the lip or tongue, the most frequent sites of cancer. Osteopathic research has proven that localized edema or lymph stasis occurs in the area immediately surrounding a vertebral lesion, yet we never find primary cancer of the spine. Edema of the limbs exists for years in certain heart cases, yet cancer of the feet does not develop. Lymph stasis alone is not necessarily the cause of cancer. Thyroid deficiency may or may not be a factor. Ovarian overactivity may have a definite bearing, since we do know that removal of ovaries often retards the growth of cancer.

There is no dispute that bony lesions may greatly alter the circulation in the viscera. But almost always in cancer there also is present some source of chronic local irritation. Cancer of the lip and tongue are frequently associated with jagged, infected teeth or the long continued use of tobacco. Cancer of the stomach follows chronic ulcer which may have gone unheeded and untreated for years, the patient giving a history of gastric distress dating back months or years. In carcinoma of the rectum there is invariably a history of chronic constipation, cryptitis, or other rectal pathology.

In the female breast the epithelial cells are subjected to many forms of stimulation and irritation. At puberty marked changes occur. At each menstruation definite changes take place. Lactation produces definite structural and functional changes to be followed by retrogressive changes when lactation ceases. As the years pass by the last changes occur when atrophy and degeneration from senility appear. Many cases of cancer of the breast have definite history of bruise or of mastitis in former years. The tissues of the uterine cervix are subjected to great variations of proliferative activity due to puberty, menstruation, pregnancy and later the senile changes.

And so we might go on with every site in the body

*Reprinted from The Western Osteopath, October, 1927.

where primary carcinoma has been found. The ever-present factor, chronic irritation, forces us to give it consideration as one of the important causes of cancer.

Dr. W. Blair Bell of Liverpool in his obstetrical clinic noted that sterility and abortion were common among women employed in the lead industries. This led him to make exhaustive studies of this condition, a full report of which was published in the Spring Quarterly issue of the Journal of Obstetrics and Gynecology of the British Empire in 1925. In this report, he and his coworkers conclude that lead has a selective affinity for the chorion epithelium, and that abortion can be produced by the action of lead upon the fetal ectoderm (trophoblast) without the maternal organism being in any way affected, and that the effective abortion dose of lead is approximately half the lethal dose.

Bell was impressed with the fact that cancer was unknown among these women lead workers and made an extensive study of statistics both in England and America. He found that cancer was almost unknown among lead workers affected with plumbism and that with improved working conditions which brought about a decrease in plumbism there was a concomitant rise of cancer. He was convinced that cancer and chorionic epithelium had many characteristics in common and believed that some form of lead might be used in the treatment of cancer. Following soon afterward, Bell produced a colloidal lead for intravenous use in the treatment of cancer. His work, though not yet complete, promises to be a great step forward in the treatment of this dread disease. Incidentally, he uses both surgery and radiation in conjunction with the lead treatment.

The most logical and probably the most widely accepted hypothesis of the cause of cancer is that it follows chronic irritation—whether it be mechanical, chemical, thermal, bacteriological, the result of overradiation, the result of oxygen starvation (such as may occur in the "circulatory whirlpools" as suggested by Dr. W. Curtis Brigham), or the formation of toxins in localized areas of long-continued impaired circulation. All of these lead to a common pre-cancerous condition of impaired vitality with starvation in the cell.

Malignant neoplasia is a reversion of the somatic cell to the early embryonic type which forms the trophoblast. The chorionic epithelium is a normally malignant tissue which comes under somatic control in that it depends upon its own efforts to obtain nourishment for itself, and indirectly for the growing embryo. If it is possible for a cell to pass through all the phases of undifferentiation to a differentiated state with increasing specialization, as seen in the human embryo, there should be no difficulty in realizing that a differentiated cell is capable in certain circumstances of retracing the phases back to undifferentiation. When a local metabolic disturbance is produced, as already described, the damaged cell, thrown upon its own resources, must either recover, die, or develop abnormally in order to provide itself with nourishment. To effectively insure the last, the cell reverts to its embryonal trophoblastic type, reproducing without regard to function or arrangement, without somatic control. Thus cancer begins.

To support this hypothesis the following results of research are presented:

(1) Morphologically, cancer is a process of dedifferentiation toward the wholly undifferentiated chorionic epithelium. Histologically, the extent of dedifferentiation is comparable with its degree of malignancy. There is a tendency to syncytial arrangement on the part of the cells. Pathologists have often noted both in carcinoma and sarcoma that the cells surround the blood vessels just as they do in the development of the early placenta.

(2) Chemically, the lipin content, especially that of the phosphatides and the phosphatid-cholesterol ratio are much higher in malignant tissue than in normal, reaching nearly the figures of chorionic epithelium. The permeability of the cell membrane is greater.

(3) The respiration of normal tissue is high and energy is produced exclusively by oxidation processes; malignant tissues have a lower respiration and obtain a considerable proportion of their energy by glucolysis.

(4) The toxicologic affinities of cancer cells are almost identical with those of chorionic epithelium. (It is interesting to speculate that the biological hormone which arrests the invasive powers of the chorionic epithelium in normal circumstances may at some time be isolated and be used for a similar effect upon cancer.)

Further along in the editorial in the JOURNAL of the A. O. A. the author tells of the medical men in Philadelphia who recently "sent out slips with bits of information regarding warts, irritated places on the skin, and such matters, suggesting that they are often the beginning of cancer and should be looked after at once." He admits that this may be true, but passes it lightly to overemphasize lymph stasis. Surely lymph stasis can have little to do with warts or irritated places on the skin. Nevertheless, these sources of chronic irritation are frequently the seat of cancer later on.

He then asks, "Why not broadcast to the world the fact that osteopathic physicians by correcting body structure, by normalizing the circulating fluids of the body and by overcoming ptosis and all other things that produce stasis, are preventing malignancy of all sorts?" The answer is this: *We have no proof that we prevent malignancy of all sorts.* Boastful statements without proof are the greatest menace to scientific osteopathy. Heaven knows we have enough blatant claims to live down.

The last paragraph of the article should never have been printed. We have no scientific data to prove such a statement. Such enthusiastic conjectures can bring no good but may do great harm in encouraging some osteopath to attempt to cure cancer by manipulation and bring discredit to himself and to his profession.

More money is being spent today searching for a cure for cancer than in any other endeavor connected with the healing art. The attention of the whole healing profession is centered on this one thing. It therefore behooves the osteopathic profession to curb ungrounded and unproven claims in this respect.

There is no personal feeling involved in this criticism, for the identity of the writer of the article is unknown to me. Only sincere good wishes for the welfare of the profession prompted the present article. Let us get behind the Research Institute and prove our claims.

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# Technic

## TECHNIC OF COCCYX*

E. TRACY PARKER, D.O.
Portland, Ore.

The Old Doctor's books frequently discuss the coccyx and corrections of strains in that area. But when he writes of technic he says he works from the outside.

A number of years ago I found out that I could relieve certain symptoms by putting steady pressure on the tip of the spinous processes. Anyone who has studied any branch of medicine has heard of rectal dilation to stimulate the nervous mechanism of the body.

Something over a year ago a patient of mine was suffering a nervous attack. She could not walk a block alone. Alternate pressure in head and face were the symptoms. She wept easily. Hysteria means some nervous irritation. Osteopathic manipulations of the spine do not relieve it—not as I give them, anyway. In this case I had to do something, and quick. I slipped my finger through the rectal sphincter and grasped the coccyx between thumb and finger and rocked it back and forth for about ten seconds. The relief to patient was most remarkable.

This patient had been treating with me over ten years and I knew under what pressure she had worked for years, though this was her first attack of hysteria.

From this experience I began to wonder what I would find in chronic conditions. Shortly after a man came in who had been unable to work for over six weeks as the result of lumbago.

I found the lumbar vertebra that was sore, then passed my finger through the rectal sphincter, found a sore spot at about the junction of coccyx and sacrum, made pressure on both spots at the same time for about five seconds and then grasped coccyx between thumb and finger and rocked it as in the other case.

After I had done this I asked him to get up. He was

*Delivered before the A. O. A. National Convention, Denver, 1927.

able to move his joints freely. There had been no osteopathic work done before this local work.

Since January, 1903, I had been trying to stop asthmatic attacks. One day I tried the coccyx technic and it stopped an attack. I have since cured three attacks of asthma in this way. Then again, there were two cases of heart attacks where the pulse was running 120, and in a few moments after the local work the pulse was running around 95. Never had been able to change the pulse rate before, that I know of. There has been no attack in heart cases since. That is over a year ago.

The backache of acute infections you can take away in a few seconds. I can't help thinking of the hours I have spent over such things—and then, without giving much help.

The most wonderful case I have seen was that of a paralysis agitans in which head, hands and feet were shaking. After the first treatment shaking left for over three hours. I gave this patient six treatments. Her head and feet have stopped shaking, she stands more erect, and is able to relax when she goes to bed.

When pressure is made on the tip of the spine of vertebra and the anterior wall of coccyx, in most cases there is a feeling that the two points are meeting, or there is a sense of warmth or swelling along the spine between the points.

Why does the pressure on tip of spinous process seem to help? Does it focalize the nerve energy which I stimulate by pressure on the plexus impar? Does the rocking of coccyx change the pressure of fluid in skull and spinal cord?

At the Denver meeting I met men who said Dr. Still did local work on the coccyx. Since my return from the convention another patient with paralysis agitans has come to me. I may not be able to diagnose as well as many others, but I am sure that the average person is able to name this terrible disease.

When this man came in two weeks ago he had the shuffling gait to a marked degree. He is able now to lift his feet clear of the floor when walking. His movements are much improved.

From what I have read I have been led to believe the disease is called a brain degeneration. But I am beginning to wonder. If anyone in the profession is doing such work I would like to hear from him. I have seen enough to be hopeful in the direction of help.

# Case Histories

## FASTING AS A PARASITICIDE

*Patient.*—Housewife, thirty-two years old.

*History.*—Negative until two years ago when she first noticed that she was lacking energy and felt tired most of the time. She was restless and irritable and her sleep was never sound. These symptoms gradually grew worse and she finally developed spells of semi-consciousness, forgetfulness and vertigo.

*Physical examination.*—A congested liver with much tenderness around the gall bladder was found; also, an impacted cecum and fullness with tenderness in the left hypogastric region.

A medical examination (ten days previous to my examination) revealed inflammation of the uterus (by their reports) but nothing more.

*Diagnosis.*—General toxemia with the localized conditions found in the examination as the result.

*Treatment.*—A complete fast was recommended and immediately begun. The patient grew weak and went to bed after the fourth day. Osteopathic treatments were given daily, enemas were administered daily, which up until the eighteenth day brought away hard chunks of black, foul-smelling material. On the nineteenth day the patient passed a mass of dead worms (a full pint of them). Their passage was preceded by a sharp pain in the pelvis about twelve hours beforehand. Some bloody discharge followed with unusual amounts of bile, mucus and pus-like material.

No food was allowed until the twenty-third day, when orange juice was given by teaspoonful doses once every two hours. Patient grew stronger after the twentieth day and was up again before food was allowed. Blood pressure, temperature and pulse were not unduly changed at any time.

Neighbors were bothersome to both patient and doctor, but the patient was always hopeful each day after seeing what a terrible mess she was harboring inside and the neighbors' comments were discounted.

Today the patient is eating and exercising in a rational manner. She has normal weight again after losing thirty-five pounds in the fast. She says she never felt better in her life and even her neighbors realize now that she is better than ever before. The total time for this treatment was approximately three months.

CHESTER C. CHAPIN,
Little Rock, Ark.

# Diagnosis and Treatment

## MILK DIET IN PERNICIOUS ANEMIA

WALTER GUTHRIDGE, D.O.
Spokane, Wash.

Recently I read an article in THE JOURNAL entitled "Dietetic Treatment of Anemia." Afterward I decided that my experience with the milk diet in the treatment of pernicious anemia was as efficacious as anything I had read on this subject.

Eight years ago a patient with a typical case of pernicious anemia came into my office for treatment. Having had some discouraging experiences with this disease, I recognized it in this patient at a glance. He had had seven blood counts, all of which had proved the disease. He had taken the arsenic treatment three times. The first time he improved a good deal, the second time not so much, and the third time not at all. He had been to two leading medical men in Spokane, who had ordered him to the hospital to have his spleen removed. He declined and thereby offended them.

I believed the milk diet might benefit him but could not guarantee it. Osteopathic treatment gave comfort, so I was called frequently and on every occasion I preached milk diet.

He became steadily worse until he could not walk around the block without resting several times. Rubbing the skin or heating it would not bring a flush of pink to the surface. He was swollen from head to foot, and a finger pressed into his body anywhere below the waist would leave an impression.

I gave him a book written by Dr. C. S. Porter, Palm Beach, California, and asked him to read it. Without asking me for any further information, he tried the milk diet, following the directions given in the book. The first day he drank eight quarts of milk, and the same amount the next day. His skin and kidneys became very active and he felt he was on the right track. His wife watched him all night as he tossed and kept him covered. At this time he weighed 155 or 160 pounds, and was as bloodless in appearance as a live man could be. On the evening of the sixth day, he called me. Being busy, I could not see him until the next morning, when I was surprised to see my patient almost as red as a new-born baby. The swelling was entirely gone. His weight at this time was under 120 pounds.

For fifty days he took eight quarts a day and his strength returned. He weighed 150 pounds at the end of this time, felt strong, and looked the picture of health. He gradually reduced the quantity of milk, adding dates, figs and small quantities of other food. Two weeks later he was on three quarts of milk a day and one "square" meal. For the last eight years he has stayed on that diet. He is afraid to omit the milk. He is still in good health.

He visited the medical men who had ordered spleenectomy. One did not know him, but when he learned who he was, became angry and went into another room and refused to speak with him further.

Another patient, an advanced case of pernicious anemia, seventy years of age, I induced to go to the milk and rest sanitarium managed by Dr. Mullenbrook in Spokane. She declared she could not drink milk, and true enough it was over two weeks before she could take milk properly. The sanitarium doctor was almost discouraged in getting her started on the diet. At first the warm milk was regurgitated. Her red blood count at first

was 350,000. In three months it was over 4,000,000. The mistake of letting her return to an ordinary diet eventually caused a relapse and death about one year later.

It seems almost impossible to get some patients to take the milk diet properly. Some patients will make a pretense of following directions, take one or two quarts of milk a day for a few days and then quit. The person of average size should take seven or eight quarts a day. He should be under control. His bowels should be emptied thoroughly. Unless elimination is kept in excellent condition there will be failure. Some cases will have to employ scientific colonic irrigation, but drugs must be absolutely avoided. There will be few successes without close supervision of a doctor and rigid management of a good nurse. All the resources of a skilled physician and of a good nurse will sometimes be taxed to get the patient properly started on the diet.

# Ear, Nose, Throat and Eye

CONDUCTED BY AMERICAN OSTEOPATHIC SOCIETY OF OPHTHALMOLOGY AND OTO-LARYNGOLOGY

J. M. Watters, D.O., Chairman

## THE IMPORTANCE OF MORE CARE IN DIAGNOSIS

T. M. KING, D.O.
Springfield, Mo.

Some things are so apparent that to repeat them seems unnecessary, and yet actual experience and observation elicit the importance of such procedure.

To tell any one worthy the name of physician, that he should be very careful in making his diagnosis, that it is necessary to observe carefully, seems wholly unnecessary but experience discloses the real necessity for just such advice. And this failure on the part of the physician is not confined to any one school of practice but is common to all; in fact, is not the fault of the school at all but rather of the individual practitioner—medical or osteopathic.

The things we now suggest have been said over and over again to physicians, and will doubtless need to be repeated many times, so long as human nature is what it is.

The specialist is daily surprised at the conditions that have been overlooked in examinations by really competent practitioners but who have been careless, or superficial, in their examinations, also sometimes in their operations.

It is quite a common occurrence for the throat specialist, for instance, to look into throats that have been examined and pronounced all right and find that by drawing the tonsillar pillars aside and applying gentle pressure on the tonsils they will exude pus in amounts sufficient to condemn the possessor to aches and pains and possibly chronic invalidism—and then be told by the patient that Dr. So and So examined my throat recently and said my tonsils were all right.

One of my patients had been in the hands of three physicians. She had developed multiple neuritis and had lost the use of her forearms and legs. Tonsillectomy followed by osteopathic treatment effected a complete cure.

There is a pitiful appeal in this morning's paper for a young woman who has lain practically helpless in a local hospital for the past eleven years. According to the article, it is hoped to raise a fund of $1,500 to send her to some noted orthopedic specialist. This significant statement is made: "Before she goes, in fact, whether she goes or not, there will be the tonsillotomy to remove the cause of the continuous reinfection. . . . At the first, and for many years, it was impossible to take out the tonsils because her jaws, like all the joints in her body, were locked so that it was feared impossible to operate without breaking them. However, the removal of her teeth a few months ago has led to more freedom of movement in the jaws, so that the operation soon will be attempted." Does any one doubt that a proper examination of the tonsils years ago, and the administration of the proper treatment then, would have prevented a lifetime of helplessness for this poor individual?

Another condition quite common is to have the patient, on inquiry, tell you that the tonsils have been out for years and on examination find remaining pieces of tonsil so badly diseased that they are more of a menace, if possible, than were the whole tonsils before operation.

Every osteopath in general practice should be able to make, and should make, careful examination of the tonsils. The necessary requisites for such examination are a knowledge of the throat, which every osteopath should have, a good light, and a box of wooden tongue blades. With one blade hold the tongue down and forward and note the condition of the pillars. If they are congested and dark that is good evidence of infection. Then with the end of another blade, or with the finger, press gently on the side of the tonsil—either in front or through the pillar—and if there is pus in the tonsil it will exude under pressure. Normalize the tonsils if possible. If not, have some specialist remove them, remembering that the specialist is your friend in trouble and is trying to help your patient. If your specialist is an osteopath he is helping your patient to realize that the osteopathic profession is able to take care of any condition and that it is not limited in its application and scope.

Experience demonstrates that many cases of diseased tonsils are being overlooked by the general practitioner much to his disadvantage as a successful physician, to osteopathy as a complete system of therapeutics, and especially to the patient who has trusted his case to osteopathy.

COMMENT

The foregoing article by Dr. King, who is chairman of the Public Health Committee of the A. O. S. of O. & O. L., is a good reminder of the consequences of a careless examination or no examination at all. How prone we often are to take the word of the patient for what ails him. A patient comes to you with a cold. The usual line of conversation is: "Doctor, I have a cold and want a treatment." Perhaps the patient is a new one. Do you take time to find out what caused the cold or colds to which he may be subject or do you just treat him?

If you have a case that puzzles you, do you feel free to call in your osteopathic specialist or are you hesitant about letting your patient know that you do not know everything under the sun? Your first feeling is a practice builder; your second, a practice destroyer.

Careful examinations and careful diagnosis would not only save your patient money, but prevent future trouble of a more or less serious nature.

In making your examination of the tonsils do not forget the nose. Your trouble lies there more frequently than in the tonsils themselves. Examine the posterior pillar just as carefully as the anterior, if the posterior pillar and the tissue back of it is congested you can be sure that the nose is at fault primarily. If just the anterior portion is congested, you can feel safe in blaming the trouble on the tonsil.

---

Question: Do you advocate "crushing adenoids" in young children? Do you think a good operation can be done without the use of the adenotome?

Answer: Some types of adenoids can be removed by a crushing operation although usually more than one treatment is necessary. Adenoids of a fibrous nature or where there are a great many should be removed by the use of the adenotome. It will be a saving to both the patient and the doctor.

A. O. A.

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# American Society of Osteopathic Internists

Editor, S. V. Robuck, D.O.

## CLINICAL SYNDROMES OF THE BASAL GANGLIA*

Leon Page, D.O.
Kirksville, Mo.

### THE ANATOMY OF THE BASAL GANGLIA

Under the heading of the basal ganglia are included certain masses of gray matter in the cerebrum. Among these are the optic thalamus, geniculate bodies and corpus striatum.

The optic thalami are collections of gray substance, oval in shape, lying on either side of the third ventricle. Situated lateral to the thalamus is the corpus striatum consisting of the caudate and lenticular nucleii, and also the internal capsule. The thalamus receives fibers from the ascending sensory tracts and also has numerous connections with the cortex. It is also connected by fiber tracts with the corpus striatum.

The geniculate bodies are two in number, designated medial and lateral. They lie posterior to the optic chiasma and are connected with the colliculi on the one hand and with the auditory and visual tracts on the other.

The corpus striatum lies lateral to the thalamus and consists of two portions, the caudate and lenticular nucleii. The caudate nucleus is in relation with the lateral ventricle and optic thalamus. Between the caudate and lenticular nucleii is the internal capsule and on the lateral side of the lenticular nucleus is another bundle of fibers known as the external capsule. The lateral portion of the lenticular nucleus is called the putamen and the medial portion is designated as the globus pallidus. The corpus striatum is connected by fibers with the cerebral cortex, the optic thalamus and the cerebral peduncle.

### PHYSIOLOGY OF BASAL GANGLIA

That these masses of gray matter within the brain, which are spoken of collectively as the basal ganglia, might become diseased and give rise to definite clinical syndromes is a fact which has been discovered in recent neurological studies. In former times little was known concerning the function of the optic thalamus, geniculate bodies, pineal body, and corpus striatum. Present information is meager, but studies in the development of the brain and in comparative neurology have shed much light upon the part played by the basal ganglia in certain clinical syndromes.

In order to get a clear idea of the significance of the basal ganglia in disease, it will be necessary to consider their place in normal cerebral activity. From the developmental standpoint we may consider the basal ganglia as primitive brain structures. In those animals which do not possess a functioning cerebral cortex the thalamus and corpus striatum constitute the higher cephalic centers for sensation and motion. They are reflex centers which determine the variety and extent of motor response to various types of stimuli. With advanced development and the appearance of a cerebral cortex in the higher forms the activities of the animal become controlled and directed by the cortex as the organ of consciousness. The primitive reactions such as the sudden assuming of protective attitudes in fear, the blind offensive when angry, and many of the sexual reflexes are in the primitive animal controlled by the basal ganglia, while in the higher animals, including man, the cortex exerts a modifying control over these reactions.

In man, particularly, the development of the cortex has gradually taken over the functions of the basal ganglia until they no longer exercise any important influence on daily activities. When they become diseased or when their cortical connections are disturbed they may be responsible for certain types of abnormal behavior which may be easily recognized.

The optic thalamus may be considered as the primitive sensory center. All sensory impulses which reach the sensory cortex must pass through the thalamus. Most of these impulses pass through unaltered, the thalamus being merely a relay station along the sensory tract. The emotional response to certain stimuli seems to be effected by reflexes through the thalamus. This is particularly true of such emotions as fear and rage. The cortex exercises an inhibitory effect upon the thalamus so that these emotions are held in abeyance. Because of this function lesions of the brain, which involve the thalamus or its cortical connections, are often accompanied by a loss of emotional control in excessive laughing or crying.

The corpus striatum may be said to occupy a position in the motor sphere corresponding to that of the thalamus in the sensory sphere. The tonus of the body musculature is maintained to a considerable degree by the corpus striatum.

### CLINICAL CONSIDERATIONS

Disease of this portion of the brain will cause rigidity, such as that found in Parkinson's disease, and myotonia as in Thomsen's disease. Also, certain of the tremors and rhythmical contractions are controlled from the same source, so that we look to the corpus striatum for pathology in the choreas, paralysis agitans, athetosis, Wilson's disease and Thomsen's disease.

One of the most interesting of brain activities is automatic associated control. By this is meant certain involuntary reflex activities which represent primitive characteristics which persist after the cerebral cortex has developed. Swinging the hands while walking, dorsiflexion of the wrist on closing the hand (a definite type of defensive attitude in fear), and many other automatic types of behavior found in man are such activities. The Babinski reflex, for instance, is a type of automatic associated control and is normally present in infants before the cortex has assumed complete control. It is observed that in diseases involving the corpus striatum many of these phenomena are absent. The mask-like features and stiff gait of the paralysis agitans patient are evidences of disturbance in this sphere.

The result of these studies has been that many clinical syndromes that were formerly regarded as hysterical and functional are now recognized as being organic and accompanied by demonstrable lesions of the basal ganglia.

Among the symptoms observed in diseases of the basal ganglia are found some of a sensory nature and others indicating motor disturbance. Among sensory symptoms which arise from lesions of the optic thalamus are anesthesia of one-half of the body accompanied by subjective pain in the affected portion, and emotional disturbances. These latter consist of attacks of laughing and crying without adequate cause. The motor symptoms consist mainly in changes in muscular tonus, producing a continuous state of hypertonus or a condition of intermittent hypertonus producing various types of tremor. A combination of these two types of altered tonus is seen in Parkinson's disease which is characterized by both tremor and rigidity. Cases with involvement of the corpus striatum also show a loss of automatic associated control, giving a stereotyped appearance to the voluntary movements. Athetosis is also an effect of corpus striatum involvement.

There are several diseases in which involvement of the basal ganglia accounts for many of the characteristic symptoms.

Huntington's chorea is characterized by tremor appearing in adult life and having heredity as an important predisposing cause.

Thomsen's disease or myotonia congenita, also hereditary, appears in young individuals and is characterized by a continuous rigidity in which the joints move slowly so that flexion of the limbs occurs slowly "like the bending of a lead pipe."

Wilson's disease, or progressive lenticular degeneration, appears during adolescence and is characterized by emotional disturbances, increased muscle tonus and athetosis. In the later stages intellectual defects are also seen.

Parkinson's disease, or paralysis agitans, is characterized by tremor and in the latter stages by hypertonus and rigidity.

Many of these symptoms follow attacks of encephalitis, and involvement of the basal ganglia may be con-

*Read before the American Association of Osteopathic Internists in convention, Denver, 1927.

sidered as an important complication of that disease.

It is reasonable to suppose that further study of this most interesting portion of the brain may shed much light upon many problems of insanity. Many of the manifestations of hysteria may eventually be found to be the result of organic changes about the optic thalamus. Of less practical value, but of great interest, are the deductions which may be drawn from these studies as to the manner in which the intellectual supremacy of man has come about.

# American College of Osteopathic Surgeons

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## ACUTE ABSCESSES—DIAGNOSIS AND TREATMENT

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Chicago

As every doctor, some time in his career, must diagnose and treat an acute abscess, a brief outline of some common abscesses should be of general interest.

We will confine our attention in this brief article to the common abscesses occurring in the areolar tissue of

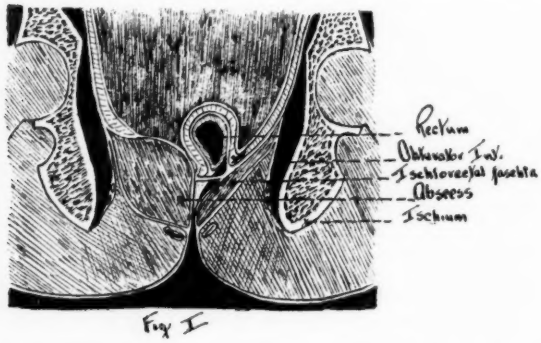


Fig. I

the body, omitting abscesses of bones, joints, tendons, pleura, peritoneal cavity, and infections of the hand.

An acute abscess is a cavity of new formation containing pus, most often the result of tissue reaction to the staphylococcus and streptococcus. The characteristics of this reaction are familiar to all of us: dilation of the blood vessels, slowing of the blood stream, escape of fluid from the blood vessels, diapedesis of leucocytes, liquefaction of local tissue cells, all preceding the abscess formation. The clinical signs of pain, swelling, redness, increase of temperature, and disturbance of function are the cardinal symptoms. But, a point not sufficiently emphasized, one or more of these signs may be absent. Moreover, any one of these signs may be found in other pathological conditions which have nothing else in common with inflammation. However, these signs are of value clinically, for there is no morbid condition other than inflammation in which they are *all present*, or in which more than half of them concur and persist.

The variation in the signs that are present depends upon the location of the infective focus, and the anatomical relationship of the tissue involved.

These facts are all mentioned in various treatises on the subject, but sufficient emphasis is not laid on these variations, since many mistakes occur through failure to read the varying signs of acute inflammation.

On the other hand, too much emphasis has been laid on the sign of fluctuation. Superficial abscesses will give the sensation of confined fluid to the examiner's fingers, but a great many of the more serious abscesses occur some distance from the surface of the body, and fluctuation does not manifest itself until very late in the disease. It seems difficult for a great many to grasp this point; yet it is almost as reasonable to expect fluctuation on the surface in an empyema of the pleura as in an abscess of the prostate, or beneath the deep cervical fascia.

### ISCHIORECTAL ABSCESS

This abscess is very common, often not diagnosed until late, and frequently, treated in an inadequate manner.

*Symptoms.*—Pain near the anus, which early becomes throbbing in character and worse on defecation. Often the pain is increased upon sitting down and in walking, so that the patient is confined to bed. What is the reason then that this condition is not diagnosed early? Because pain and fever are the only two symptoms present at first. Swelling is only found by inserting a finger in the rectum, and redness may not appear until the very late stage of the disease. The anatomical relationship is the reason for these phenomena. The hard outer boundary of the ischiorectal space is formed by the ischium covered by the obturator internus, the dense fascia forms the floor, and the yielding anal wall forms the inner boundary. The point of least resistance, therefore, is toward the anal canal, and it is not surprising that no outward sign of an abscess is present. Considerable pus may accumulate before it will break through the rectal wall and escape via the anus, but when this does occur a troublesome fistula results.

A good rule to follow is to make a digital and visual examination of the anal region in every patient who complains of anal discomfort.

*Treatment.*—The local treatment provides efficient drainage until the abscess is healed from the bottom. Either make a crucial incision and cut off the points of skin formed where the two incisions cross, or excise a circular piece of skin over the abscess. If this is not done, the skin and fascial layers unite before the deeper parts are filled up and a fistula develops.

### MAMMARY ABSCESS

These rarely occur except in the actively functioning breast. Overfullness of the breast is probably a predisposing cause of an abscess, and when present can be relieved by gentle massage, the careful use of a breast pump, and osteopathic adjustment of dorsal vertebrae and

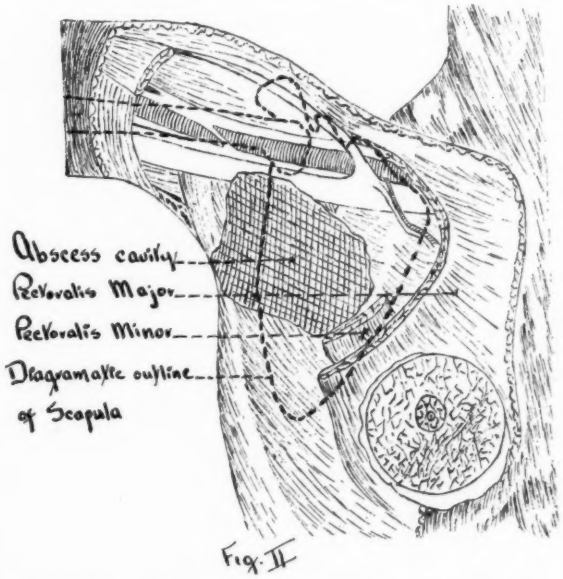


Fig. II

ribs. The physician should never ignore the throbbing, heavy feeling accompanied by local tenderness which precedes the formation of a breast abscess. There will soon be an increase in the body temperature. If these symptoms persist unabated for two or three days, it is unwise to wait for fluctuation. A radiating incision should be made in the involved section of the breast. If this is not done early, there is a tendency for the abscess to involve more breast tissue, necessitating several incisions and the destruction of much more breast tissue.

### AXILLARY ABSCESSES

Axillary abscesses usually occur secondary to hand infections, and develop some time after the infection of

the hand or fingers has subsided. The infection of the fingers or hand may be but a trivial matter, a scratch or pin prick which is inflamed for a few days, and then subsides spontaneously.

*In the case of any tender lump in the axillae:* The upper extremity on the affected side should be carefully searched for any sign of recent infection. It is possible for

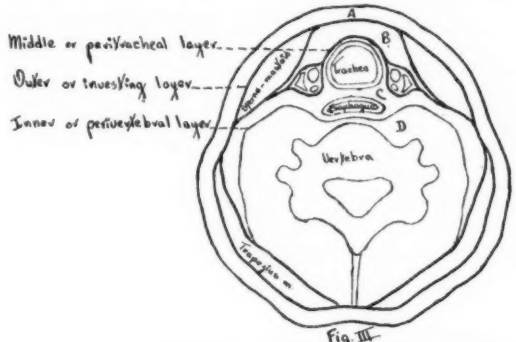


Fig. III
Diagram of layers of the cervical fascia

the axillæ to hide considerable pus without there being much external sign of it. The axillæ is covered in front by the thick pectoral muscles and is bounded behind by the scapula, the humerus prevents swelling laterally, and the rigid chest wall internally is out of sight. Only one direction is left — the base of the axillæ, where a swelling may be seen, and this is covered with a dense fascia which will hide a considerable quantity of pus before there is much external evidence of it. Fluctuation and redness should not be expected. Local tenderness over an axillary swelling, with fever, leucocytosis, and the history of a sore finger, should justify a small incision and the insertion of a pair of artery forceps. Here a small incision through the skin and fascia is all that is necessary to admit the artery forceps, which are guided to the swelling. If pus is found a rubber tissue drain should be inserted in the abscess cavity.

### LUDWIG'S ANGINA

Suppuration in the submaxillary and submental region, or Ludwig's angina, is not difficult to diagnose, unless it may be mistaken for mumps, but fever with mumps lasts only a short time. If fever persists, an abscess has surely developed. The skin is stretched and smooth; there is no fluctuation or redness until very late.

The best incision for opening this abscess is one parallel to the ramus of the jaw over the point of greatest swelling. Incise through the skin and use a blunt instrument, such as artery forceps or grooved director, to open into the abscess cavity.

Look in the mouth for primary cause of the abscess.

### INFECTIONS IN CERVICAL REGION

(a) The space between the skin and outer layer is common to the whole cervical region, and, when the site of subcutaneous abscess, shows a great tendency toward extension.

(b) The space between the outer and middle layers is narrow above, where the two layers are in contact. Below, it is equal in depth to the sternum and clavicle, which space is filled with fat and a few lymph glands. Most of the abscesses of the neck originate in this space and usually point externally. They are prevented from burrowing, either into the mediastinum or axilla, by the attachment of the middle layer of fascia to the clavicle and sternum.

(c) The space between the middle and inner layers (pretracheal and prevertebral layers) is the largest space and contains all the essential organs of the neck. Below, this space communicates directly with the thorax and axilla; hence, a collection of pus in this compartment might burrow either into the thorax or axilla. This is the dangerous area of the neck, and abscesses here should be promptly drained.

(d) The space behind the inner or prevertebral layer is very narrow. It is most frequently the site of cold abscesses, due to tuberculosis of the vertebrae. The acute abscesses originate in the lymphatic glands. An abscess in this space in the region of the pharynx is known as retropharyngeal abscess. If such an abscess is not drained through the mouth or neck it may gravitate into the mediastinum. In general, it may be well to remember that collections of pus in the neck may clinically be divided into two classes:

(1) Pus in front of the middle or pretracheal layer usually points to the surface and confines itself to the neck.

(2) Pus behind the middle or pretracheal layer is in the dangerous area; there is no tendency to point to the surface, and, unless promptly drained, it will gravitate toward the mediastinum or axilla.

### PERINEPHRITIC ABSCESS

These usually develop secondary to an abscess or infection somewhere else in the body, and the causative organism most often is the staphylococcus. Lying deep under the cover of the lower ribs these abscesses often are present for weeks before the correct diagnosis is made.

*Symptoms:* — Slight fever, malaise, locally only slight pain when fingers are pressed in under ribs posteriorly. As the abscess increases in size, signs appear in the chest, on the affected side of a compressed lung or accumulation of fluid. Very late a swelling may appear in the lumbar region, but by this time the patient is in an extreme state of weakness and anemia. The urine may show no evidence of the perirenal abscess. Any persistent fever, accompanied by the signs of some dullness at one base, and tenderness to deep pressure posteriorly at the costovertebral angle is suggestive of perinephritic abscess, particularly in a patient who has previously had a furuncle, whitlow or small abscess, and in whom there is no evidence of renal disease suggested by urine examination.

*The treatment,* of course, is simple: Make an incision at the lateral border of the erector spinae muscles, just below the lower rib, penetrate the lumbar fascia, and the exploring finger or instrument drops into the retrorenal space.

### FURUNCULOSIS OF EXTERNAL AUDITORY CANAL

This causes more swelling around the external auditory meatus, perhaps swelling over the mastoid region, and more pain than an infection in the mastoid cells. The use of an ear speculum will reveal the auditory canal swollen, even to the point of occlusion in some cases. The diagnosis, as a rule, is not difficult. Yet I know of cases which have been wrongly diagnosed and operated upon for mastoid infection, when the only trouble was a common boil in the external auditory canal.

*The treatment* is to incise the boil and keep the external auditory canal clean.

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# Physiotherapy

HERMON E. BECKWITH, B.A., D.O.

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## ARTICLE XI
## THE SINUSOIDAL CURRENT

The sinusoidal current differs from the galvanic current in several particulars: The galvanic current is a unidirectional, the sinusoidal an alternating current. The sinusoidal current does not possess polar action. The reader is referred back to Article 2 of this series, in which the various currents are illustrated. Figure 3 of this article gives a graphic illustration of a sinusoidal current as we accept the same in ordinary literature. It will be noticed in studying this figure, that each half of the cycle is of opposite polarity, so that for an instant the current is positive, and then immediately becomes negative for a like instant. Each phase of the cycle is of equal duration and voltage.

The sinusoidal current is an alternating current, in that the phases alternate, positive and then negative. The difference between the ordinary alternating current and the sinusoidal current as we use it is that the alternations of the sinusoidal current are gradual and the flow of current is absolutely smoothed out, as it were. For this reason the patient can take a very much greater voltage of the sinusoidal current than he can of the ordinary alternating current.

It is also possible to have a sinusoidal-galvanic current, as is illustrated in Fig. 9, subdivisions 5 of Article 2. In this combination we have a smoothed out sinusoidal wave, but it is of one polarity, and consequently we have not only the mechanical action of the current but the polar action as well. This current is not used to any great extent as it seems to have a fatiguing effect.

Referring further to Article 2, Fig 6, we have illustrated the current as produced by the Morse Wave generator. It will be noticed that this current is a sinusoidal current, made up of a large number of pulsations per minute. The number of pulsations as given for this type of current is 21,600 per minute. It is claimed for this current that it is less irritating under the surfaces of the electrodes and does not have the burning sensation that is caused by other currents. By the use of cams of different shapes, the current is given surges of varying but constant degrees. For instance, cams 3 and 4 produce eleven surges per minute, while cam 2 produces twenty-two surges per minute and cam 6 produces thirty-three surges per minute.

On the Morse wave generator the direct current may be given the same surging characteristics. In other words, one may have a mechanical sinusoidal current given in the various surges, or he may have a true direct current given with the same surging characteristics.

So much for the general discussion as to the physics of the sinusoidal current. One is cautioned in buying these types of apparatus to get only the best, as he may be badly disappointed in the end. We remember, for instance, a certain sinusoidal outfit—so called—that looked something like a big plate about four inches thick. Around the side of this outfit were to be seen holes for plugging in to get the current for therapy work. The pamphlets with the outfit said that the sinusoidal current was "passed through certain chemicals and thus purified." A red label over the bottom of it said that if this label was tampered with the guarantee on the outfit was cancelled, and that it would very likely lose its efficacy. Now, whenever you see such a warning it is always time to investigate and take off the labels. We did. Under the label there was a screw, which we removed. We were than able to take off the outside cover. What was revealed? Nothing but a series of resistance coils, so that all a person received from this outfit was the regular street alternating current choked down by these resistance coils according to the patient's tolerance. The outfit itself was nothing but a straight fraud—as has been other electrical apparatus placed on the market for the public and for the unstudied doctor to purchase.

The sinusoidal current has a marked effect upon cellular metabolism. It produces muscular contractions in both striped and unstriped muscles. However, owing to its gradual rise and fall it requires a much stronger current than would be necessary with a faradic current. By placing an interrupter in the current path it may be broken and then connected again. This interrupted current will give muscle contractions with much less current.

As for the general effects of the current we might briefly say that it promotes (1) elimination, (the processes of waste and repair are increased); (2), it increases glandular secretions; (3), gives a contraction massage, as it were, when slow surges are used, (this type of current is both stimulative and metabolic); (4), it gives a tetanic contraction when the rapid interruptions are used. This type tends to cause a local anemia and anesthesia. The illustration of this type of current is the first wave in Fig. 9 of Article 2.

There are only a few conditions in which the sinusoidal current is used to the exclusion of others. And these various pathologies will be considered independently with no special thought as to the general type of classification, but rather, alphabetically. This will make reference to the different pathologies easier and more practical.

### ADHESIONS

*Preventive treatment for abdominal adhesions.*—The formation of abdominal and pelvic adhesions after operation can be prevented in a large measure by the judicious use of the sinusoidal current as soon as possible after the wound has healed and the acute symptoms have subsided. Not only will the sinusoidal current be a great help in the prevention of the formation of these adhesions, but its use will also greatly strengthen the abdominal wall as well, thus shortening the time that an abdominal binder need be used.

Treatments should consist of a slow surging sinusoidal wave passing between two pads. One pad should be placed on the back and be fairly large, the other pad should be over the surgical area and a little smaller. The current should be passed very mildly at first, gradually increasing its strength from treatment to treatment, until fairly strong contractions are obtained. The frequency should be three times a week at the start, reducing in time to two and then once a week.

*Adhesions that have already formed.*—The same treatment as just outlined may be used. It is better to use a fairly small electrode nearest the surface to which the adhesions are supposed to be attached. Use a slow surging current with very strong contractions. Be careful in cases where there is present some inflammation as it is very easy to make the inflammatory condition much worse by using too strong contractions. However, it is obvious that the stronger the contractions the greater will be the pull upon the adhesions. "Go strong with care."

In this condition the direct current may be brought into play, and by the use of the negative pole as the active pole over the scar tissue we can get a somewhat softening effect. At the same time we can employ a surging galvanic current, thus getting the softening effect plus the pulling effect of the contractions. The treatments should be given three times a week to start with, gradually reducing to two and one a week until the patient is discharged.

In the way of an advance note on the content of a future paper we might add that we believe the combination of diathermy to be followed by the surging sinusoidal current offers the best possible treatment for adhesions.

### ASTHMA

In this troublesome condition, for which there are a million remedies, more or less, the sinusoidal current is another that can be added to the catalog. In cases of *bronchial asthma* it is very useful to help in obtaining relief

from the spasm. In cases in which there is no known cause the current will not only often relieve the spasm, but, if the treatments are continued, there will follow a disappearance of the trouble altogether. The technic of treatment is to place a small electrode over the lower cervicals and upper dorsals—the 4th and 5th cervical vertebræ being the main point. The other electrode may be placed under the sacrum or over the lung. The current used should be a strong wave type used to the patient's tolerance and administered every other day at the start.

Our own preference in treatment in the majority of cases of asthma is the use of diathermy, actinic and roentgen rays. The sinusoidal current treatment, as just outlined, is given for the help it may be.

MUSCULAR ATROPHY

When there is a peripheral nerve injury, the muscles which it supplies become inactive, there is an accumulation of lymph and a consequent impairment of nutrition. The object of treatment is to keep the muscle nutrition up until the nerve regenerates. Nothing will do this in as satisfactory a manner as will the use of the sinusoidal current in cases where the muscle will respond, or the use of a galvanic current in cases where there is a reaction of degeneration present. Consequently, the technic must involve both kinds of current.

In cases where there is *no reaction of degeneration*, the use of the sinusoidal current is best. Place the pads so that they lie one over the spinal center and the other so placed as to pass the current through the involved muscle or muscles.

In cases that show a reaction of degeneration, employ the galvanic current, using an interrupted type. In both methods employ a current with fairly fast interruptions, say 250 or more. Also, it is better practice to allow the current to pass for a few seconds and then allow a like period of rest. One must be careful or he will do damage by using the current so strong and so long that it will cause fatigue.

ATROPHY OF THE OPTIC NERVE

This condition is considered almost a hopeless one and any treatment that offers any hope at all is of exceedingly great value. While we cannot speak from any personal observation, we can cite the opinions of several who have had considerable experience in this line of work and can speak with knowledge concerning it.

Hollender and Cottle in their recent work on physiotherapy in eye, ear, nose and throat conditions advise very strongly the use of "some form of galvanism or the sinusoidal current." They recommend that it always follow some treatment such as radiant light or diathermy.

Dr. Coleman, one time president and professor of opthalmology in the Post Graduate Medical School of Chicago, writes very favorably concerning the sinusoidal treatment of this condition. He says, in part, "I have used the sinusoidal current exclusively and have very satisfactorily improved vision in sixty-six per cent of my cases." This statement was made before the days of diathermy. He does cite, however, the use of the 500-candle power electric light as a help. He also cites the case histories of several patients to prove his work. For instance, one case in which the vision at the start was 20/200 in the left eye at the end of four months treatment the same eye had a vision of 20/67. Many of the cases that Dr. Coleman mentions had been through months and years of previous treatment by the regular means of strychnia, phosphorus, and various other tonics.

BRONCHIECTASIS

This is another condition that is considered of poor prognosis. We have found, however, that physiotherapy can do almost wonders in some of these cases.

Among the methods used under physiotherapy is the employment of the sinusoidal current. Place one small pad electrode over the 4th and 5th cervical and the other pad over the dilated bronchial area.

The best physiotherapy combination for this condition is one that uses diathermy, sinusoidal current, and the x-ray. We have right now under treatment a case that was raising a good quart of fetid expectoration when we first started. We advised the use of diathermy and sinusoidal current and in conjunction with these two modalities, which are given by the doctor who referred the case for x-ray diagnosis, we also use a little x-ray therapy. This patient today is raising about half a cup a day and reports he is feeling almost 100 per cent better. This patient was treated in the east for several years without improvement. He was under the care of two of America's supposedly greatest doctors. He was finally sent to California to see if the climate would do any good. It did not, and he finally drifted in the hands of a Pasadena osteopath.

CARDIAC DISEASE

We mention this pathological condition only to call attention to its relationship to intestinal stasis. Quoting Waggoner, (M. D.), "Far more cases are whipped to death by the use of digitalis than are ever cured. Not by that do I mean that digitalis is of no value. It most assuredly is." Further he says, "Probably the greatest cause of breaking compensation is due to the fact that mechanical stasis occurs, throwing a tremendous load upon a heart already crippled. If we now whip the heart without attempting to remove the load we will, nine times out of ten, whip it to death."

The treatment of heart disease will be considered under its alphabetical order as Intestinal Stasis.

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# Book Notices

NUTRITION AND DIET in Health and Disease. By James S. McLester, M.D., Professor of Medicine at the University of Alabama, Birmingham, Ala. Cloth. Pp. 783. W. B. Saunders Company, Washington Square, Philadelphia, Pa.

Perhaps no other subject is receiving so much attention by the healing profession and layman as the subject of diet. Everybody is talking about food, and the well-informed physician must keep abreast of the latest advances made in this popular subject in order that he may intelligently advise his patients concerning their nutrition.

Dr. McLester has put out a very pretentious but very readable book on the subject. The type is large and very clear, and there are many tables and charts included. It is designed for the student as well as the practitioner.

Perhaps the author's own words will convey a better understanding of the context of this volume: "Two chief factors should govern all dietary regulation: first, the person's nutritive needs, whether in health or disease, and in disease, the nature of the physiologic disturbance; second, the combined experience of the past. The former is too often neglected, and the latter, as a rule, has been given undue weight. The endeavor here has been to balance these two—to base dietary rules on nutritional requirement, and to arrange the details according to the knowledge obtained from experience. Many oft-quoted regimens which have the sanction of long tradition have been omitted because on critical scrutiny it is apparent that they are without value. The space thus saved is given to a consideration of pathology. No apology is offered for the relatively large amount of space thus devoted to a discussion of disordered physiology, for without it intelligent dietary management is impossible."

We believe this new book will become well known and widely studied.

SURGERY, ITS PRINCIPLES AND PRACTICE. By Astley Paston Cooper Ashhurst, A.B., M.D., F.A.C.S. Cloth. Pp. 1,179. With 15 colored plates and 1,046 illustrations in the text, mostly original. Price $10.00. Lea & Febiger, 600 S. Washington Sq., Philadelphia, 1927.

This is one of the standard surgical texts in which, of course, some attention must be paid to orthopedic questions. Subluxation of the sacro-iliac joint may take place, we are told, from a sprain or long continued strain. The motion occurs anteroposteriorly around a transverse axis, the usual displacement being of the upper end of the sacrum backward. Cricks and stitches in the small of the back may follow strain of the ligaments of these joints from stooping, from malposition in sitting or standing, or simply from lying long flat on the back as when undergoing surgical operation. We are told, too, that the pelvic

and lumbar muscle tone is lowered, and undue strain thrown on the ligament after child birth or during convalescence from some wasting disease or simply from malnutrition, overwork, etc. The author does not seem to be sure about the reality of "concussion of the spinal cord" or "railway spine" made somewhat popular by Erichsen a number of years ago. He thinks it probable that most such cases really are severe strains or sprains in the back. He disagrees with those authorities who recommend extreme caution in handling cervical dislocations, only insisting that the reduction "should be done judiciously and with a clear idea of the mechanism of the injury."

MODERN MEDICINE: Its Theory and Practice in Original Contributions by American and Foreign Authors. Volume V. Diseases of the Blood—Diseases of the Lymphatic System—Diseases of the Ductless Glands—Diseases of the Urinary System—Vasomotor and Trophic Disorders—Diseases of the Locomotor System. Edited by Sir William Osler, M.D., F.R.S. Re-edited by Thomas McCrae, M.D., Professor of Medicine in the Jefferson Medical College, and Elmer H. Funk, M.D., Assistant Professor of Medicine, Jefferson Medical College. Third edition. Cloth. Price $9.00. Pp. 948, with 93 illustrations. Lea & Febiger, 600 S. Washington Sq., Philadelphia, 1927.

The discussions in this practice of medicine are, as a rule, longer than the limitations of the ordinary textbook would permit, yet shorter than would be written for a monograph. Preceding volumes have looked at disease from a number of standpoints and have considered diseases of particular parts and systems of the body.

Considering the great amount of space which current medical literature is giving to mechanical causes of spinal and muscular disorders, it is interesting to see what Dr. Thomas McCrae has to say about fibrositis in the section on diseases of the locomotor system. Torticollis and lumbago are particularly mentioned. "Muscle strain from occupation or faulty position may have an influence" we are told. "Thus in the production of torticollis, if a patient is lying with the head in a bent position, the condition is apparently more likely to develop. It is, however, especially in the production of lumbago that trauma seems to be important. Some strain, as in lifting or working in a bent position, is a common contributing factor," but the relationship of bony or joint affections is not mentioned. The only reference to mechanical treatment is this: "In the more chronic form local massage and manipulations are useful."

PHILOSOPHY. By Bertrand Russell. Cloth. Pp. 307. Price $3.00. W. W. Norton & Company, Inc., 70 5th Ave., New York City, 1927.

Bertrand Russell had distinguished himself in mathematics and in logic before the Great War forced him to turn his eyes to the problems of mankind, which he has since been studying from the scientific standpoint. The solution of most of the difficulties of the race, in his opinion, lies in proper education, and he holds revolutionary views as to the training of children. In this book, Russell endeavors to show the sort of world in which we live and how it differs from the world in which we seem to live. He presents his philosophy with special relation to the new physics and the new psychology which the science of very recent decades has built up.

BRONCHOSCOPY AND ESOPHAGOSCOPY. By Chevalier Jackson, M.D., Professor of Bronchoscopy and Esophagoscopy, Jefferson Medical College; Professor of Bronchoscopy and Esophagoscopy, Graduate School of Medicine, University of Pennsylvania. Second edition, reset. Octavo of 457 pages with 179 illustrations and 10 color plates. Cloth, $8.00 net. Philadelphia and London: W. B. Saunders Company, 1927.

A book for the specialist. More than four hundred pages of clearly written, well described technic. The book is wonderfully illustrated with descriptive pictures showing details of technic, cuts of instruments, drawings and roentgen ray pictures thoroughly illustrating every detail of the technic of diagnosis, treatment and surgery. It is indeed a most useful book for those doing such work. J. D.

AMERICAN MEDICINE AND THE PEOPLE'S HEALTH. By Harry H. Moore, Public Health Economist, United States Public Health Service. Cloth. Pp. 646. Illustrated. Price $5.00. D. Appleton and Company, 35 W. 32nd St., New York City, 1927.

Mr. Moore has made a careful and detailed study of the organization of medicine in the United States, with special reference to the adjustment of medical service to social and economic change. His book has the hearty approval of the committee of five of the Washington Conference on the Economic Factors Affecting the Organization of Medicine. The present organization of medicine, and its maladjustments; the inadequacy of personnel and financial support among official health agencies; the shortage and inaccessibility of personnel and equipment in private practice; the inability of the people to pay the cost of medical service; the unfairness, to many physicians, of the present system of medicine, and the insufficiency of interest among private practitioners in preventive medicine are studied at length. We are then told of various recent attempts to remedy the maladjustment, including state and government service, clinics, industrial efforts and health insurance. The author then looks to the future and outlines the principles applying to the organization of medicine, and shows that the state will probably aid in the establishment of additional hospitals and clinics for persons of moderate means, the extension of preventive medicine, both in private and public work, and a scheme of adequate health insurance available to all the people independently of medical service.

Osteopathy is included among the types of irregular practice to which Mr. Moore believes present conditions have been driving the public, and to which he objects.

THE KINGDOM OF THE MIND. By June E. Downey, Professor of Psychology in the University of Wyoming. Cloth. Pp. 207. Illustrated with charts, drawings and half-tones. Price $2.00. The Macmillan Company, 66 Fifth Ave., New York City, 1927.

Edwin E. Slosson, whose work as director of Science Service is helping so much to interpret science to the common man, edits Macmillan's Young People's Shelf of Science, of which this book is one. The author brings many interesting facts of psychology into the realm of the teen age. Seeing and hearing the flight of time, memory, living and learning, knowing people and other vital subjects are included.

THIS EARTH WE LIVE ON. By Elizabeth W. Duval, with illustrations by Percival C. Wharton. Cloth. Pp. 156. Profusely illustrated with drawings, many of them in colors. Price $3.00. Frederick A. Stokes Company, 443-449 Fourth Ave., New York City, 1927.

The writer of this book, in teaching her own child, found that the ordinary printed geographies did not convey the ideas of the earth, its people, its countries, industries and cities in as vitally interesting a way as she would like. The interest of children from six to ten will be held by the color and variety and life which this text gives to geography, even though some of its details may not be accurate.

HOW TO LIVE LONGER. By John Clarence Funk, M.A., LL.B., Sc.D., Director, Bureau of Public Health Education, Pennsylvania State Department of Health. Cloth. Pp. 146. Illustrations by Walt Huber. Price $1.50. David McKay Company, 604 S. Washington Square, Philadelphia, 1927.

A collection of more than thirty very short, humorous, readable sketches, each driving home a health lesson. For instance, the chapter "Don't Monkey With the Buzz Saw" begins "Many people have medicine mania." It starts with a condemnation of self treatment in general, and winds up with a strong arraignment of patent medicines.

The conclusion of the chapter on "A Firm Foundation" is, "Let common sense contro! your footwear. Use the ground to walk on, but don't hasten the day when you will use it as your blanket! And bad shoes, conceivably, can do that very thing. Keep your foundation firm."

Of course, vaccines and antitoxins come in for a good word.

CREATIVE EDUCATION IN SCHOOL, COLLEGE, UNIVERSITY, AND MUSEUM. By Henry Fairfield Osborn. Research Professor of Zoology, Columbia University; Senior Geologist, *U. S. Geol. Survey;* President, American Museum of Natural History. Cloth. Pp. 360. Illustrated. Price $2.50. Charles Scribner's Sons, 597 5th Ave., New York City, 1927.

Dr. Osborn is sure that most of our vast educational efforts are misdirected and wasted—perhaps that in the nature of things (with the mass teaching of large classes) they must be. He is sure that humankind's potential abilities remain for the most part undiscovered, but that the methods of what he calls creative education would help to discover such potential abilities in science, art and

literature. He insists upon the necessity for productive thought and activity on the part of the student from his earliest days in school, and declares that from this standpoint the youth of the stone age had a better training than the child of today, who simply has information poured into him. This book is a collection of his papers and addresses along this line of thought, outlining the place of the creative spirit and creative education in the school, the college, the university and the museum. Dr. Osborn's fifty years of successful work as an educator speak for the worth of his ideas.

THE HIGHER FOOLISHNESS. With Hints as to the Care and Culture of Aristocracy; followed by Brief Sketches on Ecclesiasticism, Science and the Unfathomed Universe. By David Starr Jordan. Cloth. Pp. 226. Price $2.50. The Bobbs-Merrill Company, 724 N. Meridian St., Indianapolis, 1927.

In this book, Dr. Jordan pays his respects in an irresistibly humorous fashion to the followers of many modern (and some not quite so modern) notions. The book is dedicated to those who "thinking wisely" still hold "the will to believe," and the author has evidently got a lot of fun out of watching those inspired and inspiring men and women who make up their own truths as they run along.

It concludes with a serious discussion of the realities of science, and its present limitations.

THE NEW CHRISTIAN EPIC. By Albert W. Palmer, D.D., Pastor of the First Congregational Church, Oak Park, Illinois. Cloth. Pp. 195. Price $1.50. The Pilgrim Press, 14 Beacon St., Boston, 1927.

There have been three great epics of creation, says Dr. Palmer. One of them is dead, another dying, and the third is hardly born. This new Christian epic which he preaches, is a religion in harmony with new world views fresh, stimulating, practical. These eleven sermons, preached by a world traveler and student of social conditions and international relations, show a mystic insight which is matched by an equally ready sympathy with social needs.

*Vanguard Studies of Soviet Russia*

HOW THE SOVIETS WORK. By H. N. Brailsford. Cloth. Pp. 169.

THE ECONOMIC ORGANIZATION OF THE SOVIET UNION. By Scott Nearing and Jack Hardy. Cloth. Pp. 245.

VILLAGE LIFE UNDER THE SOVIETS. By Karl Borders. Cloth. Pp. 191.

RELIGION UNDER THE SOVIETS. By Julius F. Hecker. Cloth. Pp. 207.

SOVIET RUSSIA AND HER NEIGHBORS. By R. Page Arnot. Cloth. Pp. 175.

Published by The Vanguard Press, 80 Fifth Ave., New York City, at fifty cents a volume.

These are five of thirteen volumes constituting an exhaustive study of the first ten years of the Soviet regime in Russia, under the editorship of Prof. Jerome Davis of Yale University. Whatever may be one's beliefs regarding this mighty social experiment, he can think and talk about it more intelligently if he has the facts at his command, and these expert observers who wrote these books have set down many essential facts.

PROBLEMS OF HUMAN REPRODUCTION. By Paul Popenoe. Cloth. Pp. 218. Price $2.50. The Williams & Wilkins Co., Mt. Royal and Guilford Aves., Baltimore, 1926.

A sane and simple interpretation of the known facts of human reproduction told frankly and without offense for the nontechnical reader. It makes no attempt to give a detailed or critical discussion of any of the subjects included, and deals but briefly with some on which others have written satisfactory popular treatises.

THE OUTLINE OF MAN'S KNOWLÆDGE. By Clement Wood. Cloth. Pp. 654, including fourteen full-page illustrations and three double-page decorative mats. Price $5.00. Lewis Copeland Company, 119 W. 57th St., New York City, 1927.

We have had an outline of history, an outline of science, and several others. Now we are brought up short with an outline of everything, all in one book. It would seem as if such an outline could be nothing more than a framework—hardly even a table of contents, yet Mr. Wood has written a very brief history of each of these great subjects, and has done it interestingly and (experts in different lines of knowledge say) accurately.

# Business Efficiency

## THE EFFICIENT OSTEOPATH

C. C. REID, D.O.
Denver, Colo.

### XV.

### THE PSYCHOLOGY OF STARTING PATIENTS RIGHT (Con.)

### III.

You have made your history and physical examination, you have arrived at a crucial point with the patient. The general patient at this point will expect you to give him a diagnosis. It is quite possible you could give a fair guess at a diagnosis, but if you should attempt to give a diagnosis at this point the chances are you would be mistaken. There would be something left out, and on further investigation you might have to reverse yourself more or less. If you should give a diagnosis upon which you expected to act, and upon which the patient would begin to make a decision as to what action he should take, you would be in an entirely wrong psychological atmosphere.

We are now supposing that this patient is one of the chronic variety which comes to the office of the osteopathic physician. The old-fashioned salesman used to think he should sell every customer that came into his store some goods before he got out. You are not selling goods, you are rendering service. It is all right to "sell osteopathy," but you must be very guarded in selling it. At no time should you put yourself in the attitude of persuading the patient to take treatment or of showing any anxiety to secure patients.

You should at once tell the patient that the examination is not complete. The patient now wonders what else you are going to do. You want to handle his psychology as well as give yourself a little time to study the case. Ask the patient to leave a sample of urine, so that next day, after having made a thorough urinalysis, you will have all the data necessary to give as complete report as possible. This puts an altogether different phase on it. You are not even going to talk to him today, and you are not so wonderfully anxious about getting a patient. You are going to study his case report and get certain data from the urinalysis. It is easy to explain to the patient that many things can be found out from urinalysis. It might be well to mention that sometimes we find albumen and sugar, which may uncover serious conditions not suspected otherwise. After just enough has been said for a proper understanding you should leave the room. After the doctor has gone the patient naturally thinks it over.

Frequently patients will ask you what the price of your examination is. Tell them promptly five dollars or ten dollars or something, and forever be rid of this free examination. When we left school these points were never properly covered in our instructions. Many of us did free examinations for years. A great many osteopathic physicians, as well as medical doctors, still make their examinations free of charge. If the doctor gets no pay for his examination he is likely to think it is time thrown away, or at least that would be his mental attitude. In this case there is no stimulus except a strong will and an active conscience to bring one to do complete and thorough examinations. If the doctor is getting some financial remuneration for the time and effort spent, it will spur his conscience and provide an incentive to take more pride in doing a good job of it. The patient will think better of you and your work if you charge for the examination. By the time you are through with his examination he will be impressed with the idea that the examination was worth what he pays. If you do not charge anything for it he will think it is not worth anything, or at least that it is a minor issue to be gotten over as quickly as possible. The doctor will also be in that mental attitude. As the old saying is, "People in the world will estimate you just about where you estimate yourself." When charging, you would feel that you were being paid for your time and you would get enough out of it to help care for your loved ones and pay your rents.

The doctor has now stepped out of the room. He has gone. The patient has not much idea as to what the doctor is thinking. You have said to the patient, "When

you come tomorrow," you did not say, "I would like to see you tomorrow if you will just come," nor have you asked "Will you start treatment today?" If you did the patient would promptly say, "No, I don't think so, I will think it over." Instead you are the one who is going to think it over. You might well have explained that you do not accept patients for treatment unless you are sure you can cure or benefit them. This very mental attitude is what the patient needs. He has probably been going around telling the doctors what is the matter with him and what they should do. You should leave him wondering if he is going to get treatment at all. You will try to get his mind right, so that he will obey you and there will be no question of his doing things you want him to do, like coming back when he ought. He will also follow your instructions much better in the way of diet, hygiene, etc. The relation is good for the patient as well as the doctor.

The patient now dresses, and makes an appointment with the girl at the desk for a certain hour tomorrow. If your office is arranged so that you can handle patients promptly, keeping them properly satisfied, you may have the patients come without a definite time. The secretary merely tells them to come in the morning or the afternoon as best suits them. By handling patients efficiently, getting through with one in about seven to ten minutes, you will avoid crowding your office.

As a rule doctors try to do the urinalysis themselves. You can teach your nurse or even your secretary to make a very good urinalysis in a little while; how to take the specific gravity, the reaction and the main things you want to know. If you want to go further, you might employ a laboratorian or have a laboratory man make a complete report, which is all the better. It is well, however, to find out the elementary things you wish to know by having the nurse make your test. You could determine readily from the examination whether the patient was drinking enough water, whether there was Bright's disease, diabetes or autointoxication.

### THE NEXT DAY

The patient has had twenty-four hours to think things over. It is assumed that he will come back tomorrow. It is assured that when he arrives he will buy your goods if you have them for sale. It will be a rare case if the patient does not come back as told. If you have created a condition like this he will come more readily. He wonders if he can really get into this office and take treatment from this particular doctor. You have created an entirely new psychological condition. It is not a question now of whether he will take treatment, but it is a question of whether the doctor will treat him or not.

When he returns the next day the nurse connects him up right away, putting him in a private room and telling him to get ready for a further examination. Let the nurse give the impression that there may be some further examination that the doctor wants to make, which is quite true. He is not necessarily getting ready for a treatment. You will know by this time whether or not you want to take the case. That is, your diagnosis will be made up. If the diagnosis is not complete and further examination or laboratory work or x-ray work is required, these things can be explained to the patient and further examination or work done to complete the diagnosis.

The patient is ready. The buzzer rings. The doctor goes in as promptly as possible. The patient is still wondering. The doctor brings in the case report which has on it the result of the urinalysis as well as the other data. He has had time to study the case, if he wants to, or he has had a chance to make his diagnosis and prognosis, both of which will be more likely to be nearer correct, since he has had time to think the case over. He is master of the situation much better than if he had drawn hasty conclusions and told the patient the day before.

Proper explanations should now be made to the patient as to his condition, and if the case is favorable the reasons for your diagnosis and prognosis should be given. Tell the patient promptly, "Your case is favorable, I will take care of you." A patient will often draw a deep sigh of relief on finding that the doctor is willing to take the case. You now have the patient at the point where he will do anything you say. This result is more easily obtained under the system I have just outlined than almost any other. At this point you suggest that the patient take the position in which you desire to begin treatment. Under conditions like this there will seldom be any quibbling as to whether treatment should begin or not. It starts promptly and proceeds under right relations, progressing towards good results.

### TREATMENTS—METHOD AND NUMBER

The patient is started and you have given him the treatment, rather lightly at first according to conditions. Don't bring in manipulations or a lot of extra movements to make an impression. Add no excess baggage. Forget time. You will be away ahead of the fellow across the hall with his hour treatment. He will be on the basis of a Turkish bath rubber while you will be a scientific physician. He will kill himself with hour treatments without making anything much and you will still be going strong. After the treatment, instructions, if there are any, should be given to the patient. Almost all chronic cases in the beginning should come every day for from three days to two weeks. When you are through with the treatment and have given your instructions briefly for that day, go out of the room at once. Don't start any kind of a visit or get into any discussions regarding the ball game, politics, religion or hobbies. This is just so much time wasted. People will get into the habit of visiting with the doctor very readily. Then if they do not have the same treatment continually they feel neglected. Just ignore all these irrelevant things and go on to the next patient, for there will be some patients waiting if you handle them in this way; usually plenty of them.

Do not map out a course of thirteen treatments a month or any definite number. Have them come every day until you have complete control of the case and it has shown the proper improvement you want. Then have them skip over according to conditions. The reasons for this are psychological as well as physical. If the patient is suffering and you put him over for a day or two he will wonder why you don't give him better attention. The patient is now started right and you will probably get better results than under any other system. Everything all along has been carried out on a basis that will make it psychologically right.

When the patient is well, or getting near well, it is the proper thing to discharge him. The patient should not be continued on treatment until he goes back psychologically, thinking you are just trying to hold him as long as possible as a patient. A little vacation usually helps considerably in getting results. Notice the psychological effect as you proceed. If the patient seems to be thinking along that line, suggest that he take a month's vacation from the treatments. You might say, "I will let you go now. You are not well yet, but you are getting along so nicely that you need not come again unless you get worse." Say something of this kind to him and discharge him if you find his psychology is getting bad. The desire of the doctor is to continue and get results as far as possible. He may not be able to do this on account of the mental attitude of the patient. This must be handled properly as well as the physical condition.

### CHARGING FOR EXAMINATION

Here I want to put some emphasis on charging for examination. Most all of us will agree that it should be done. Some say they cannot do it successfully. Some testify to considerable grief in their efforts to charge for examination. Patients say the doctors should find out what is the matter with them and charge them for the treatment. They take the attitude that it is the business of the doctor to know what he is working at and that, therefore, he should determine that without cost to them. This is not good logic. It requires valuable time, effort, nerve force, study, and the use of expensive apparatus, often actual expense for material used, the payment of helpers, and secretarial work, to make a diagnosis. No doctor can afford to give careful examination and diagnosis free of charge. It is an economic impossibility.

Besides all this, the psychology is wrong. When not charged for, the examination will be less appreciated by the patient and will be less seriously regarded by the

physician. There will be a tendency to curtail the examination in time and thoroughness, which will lead to incomplete or perhaps incorrect diagnosis. The diagnosis would frequently be no more than poor guesswork. The doctor also puts himself in a position to be imposed upon frequently, if his diagnosis is worth anything. There are many unscrupulous people who would not hesitate to go to a doctor when they could get a free examination and diagnosis, take advantage of this and then take his opinion to their regular doctor or some other doctor for his observation. It also gives people a cheap way to spy on the doctor's method of procedure. No doctor can afford to give free examination as a matter of routine. There should be a definite charge, unless it is a case of actual charity, properly selected, on which he would also give his treatment free of charge along with his examination.

The best method of making a charge for the examination is to keep the examination entirely separate from any treatment. When the patient comes at first a history is taken and a physical examination is made, then urine is taken for urinalysis and perhaps some other laboratory work is done and the patient is required to come back for the report. When no treatment is given and no effort is made by the doctor to start the patient on treatment at the first visit, the examination is left entirely separate from any treatment. The patient, as well as the doctor, will visualize this as a specific service for which a charge will be made by the doctor and which would be expected by the patient. This method saves the doctor much difficulty in charging for the examination. If a treatment is given at the first visit and is mixed up with the examination and diagnosis the first day, the physician might just about as well charge for the treatment and nothing for the examination and diagnosis because the patient will visualize the treatment as the only service to him.

If the examination and diagnosis are given entirely separate and laboratory work is done, and if the doctor has some suspicion that the patient is wanting his diagnosis merely to take to another physician, he can demand his fee for the examination when the patient comes back and is given his final report. This puts the doctor in control of the situation if he has a suspicion he is being imposed upon. Under our economic system and our present day high cost of living, the doctor who does not take any definite interest in the business side of his practice will soon have his creditors on his back and he will be greatly handicapped because of his financial situation.

I do not believe we should commercialize in the sense of making money first. Give a good service and put the welfare of the patient first, but do not forget financial considerations if you expect to have automobiles and libraries, to take postgraduate courses and attend conventions, to keep a family and a good serviceable office, to have a reasonable amount of vacation and live an efficient professional life, and to be a good citizen.

# Colleges

## COLLEGE OF OSTEOPATHIC PHYSICIANS AND SURGEONS

STUDENT BODY NEWS

The meeting on November 14 was called to order by Forrest E. Dowey, president of the Student Body. Dr. Ralph M. Crane, of Hollywood, was next introduced as perhaps the best pneumonia specialist in the osteopathic profession. Dr. Crane began his talk with a resume of the early history of osteopathy and pioneer osteopathic doctors. A fine tribute was paid to Dr. A. T. Still, the father of osteopathy. Then to the amusement of the assembly, Dr. Crane related personal experiences in his practice as a physician. These were at times humorous and at times full of pathos. However, Dr. Crane gave advice to the students that will be of lasting value.

The assembly on December 7 was opened by the president. Dr. Gordon Hatfield, student-councilor of the faculty, made some remarks about the standards of the student body conduct and urged the students to support any program for the good of the school. The vice-president, Charles R. Poitevin, after being commended by the president on the manner in which he has discharged responsibilities heaped on him, was given the privilege of introducing Dr. G. W. Woodbury, the speaker of the day. Dr. Woodbury, only last year on the faculty of the college, is now superintendent of Unit No. 2, General Hospital, the osteopathic unit. In an entertaining way, Dr. Woodbury acquainted the students with the hospital, which is just across the boulevard from the school. In the course of his talk he said that about 600 people a day applied to the hospital for aid and that last year over $2,000,000 were expended in running the institution. The doctor gave the students to understand that there was no reason why our unit should not from the start be filled to capacity, since every ward in the county hospital is filled to overflowing at present. When the new building is at last equipped and in running order, there will be exceptional opportunities for the college classes to skip across the boulevard and make observational studies, Dr. Woodbury stated. Enthusiasm and serious concern was shown by every member of the student body for the success of the Osteopathic Unit.

Wesley A. Havermale, the college librarian, is particularly anxious to augment our circulating library. We have in our collection some exceptional books and technical papers. Mr. Havermale feels, however, that some alumnus or friend may have some valuable books that he would be pleased to give to the college. Books that you have helped to edit or publish are particularly desirable. Perhaps you have a paper presenting some particular phase of research, a copy of which you would like to send to the student body library. You may be assured that such gifts will be of real benefit. Those wanting to make a gift to our library will please communicate with Mr. Havermale.

## DES MOINES STILL COLLEGE OF OSTEOPATHY

There still linger, in the minds of the student body, memories of the events which occurred during the Thanksgiving vacation. Some went to Kirksville to see the game, but the majority stayed home. Those who took the trip made it in a big bus and will ever remember the strip of mud between Ottumwa, Ia., and Lancaster, Mo., the only part of the road now that is not paved or graveled. Yes, Virg Halladay drove it in five hours, but he was going so fast that he skidded through town, finally managing to stop by bumping into the Santa Fe station at La Plata. No one regrets the trip. The game was a good one from start to finish, and while we lost according to the score we have the satisfaction of knowing what our team can do when handicapped by being outweighed between 15 and 20 pounds per man. We are only sorry that more of our student body did not attend. We now look forward to the coming basketball season.

In anticipation of the Christmas season the various organizations have been entertaining. Formal and informal dances, parties, etc., have nearly broken the routine of the regular work, especially among the seniors. The grand gala Christmas celebration was held the morning of December 22. Dr. Schwartz designated the girls of the school as a committee to put it on and it met with the usual success. Of course there were some who received presents that they really did not deserve, or perhaps that were not just applicable. School closed for the holidays with a smile on every face.

Under the leadership of their president, the freshmen collected a large box of clothing and sent it on to the negro school at Piney Woods, Miss. This is only one of the many things occuring around the school that show the generally appreciative attitude of the student body.

The clinic, both inside and out, has been unusually busy, due to the change to extremely cold weather. Cases of pneumonia and flu have been coming in regularly, and a number of other types have registered this last week. The boys on the obstetrical shift are out practically every night. Reports show seventeen cases handled during the last four weeks.

Prospects for the class entering the last of January are especially good. One boy from the east is in the city

already, and reports indicate a material increase over last year.

A special memorial assembly was held the morning of December 16 that we might honor the lives of two members of the Still family who have passed on. Dr. Schwartz, the dean, was in charge and called on Dr. H. V. Halladay to speak on the life and work of our founder, Dr. A. T. Still. Dr. Halladay's eulogy was highly appreciated by the student body. Dr. C. W. Johnson gave us a splendid review of the life and work of Dr. George A. Still, son of our founder, who died five years ago November 23.

It should be our solemn duty to pause in our work each year at this time, and spend a few minutes in contemplation of these two men who have contributed so much to the world and have meant so much to each of us personally.

## KANSAS CITY COLLEGE OF OSTEOPATHY AND SURGERY

Many things of interest have occurred during the past few weeks. A genuine school spirit is being manifested, more than ever before. Friendly competition and cooperation along various lines are adding zest to the life of the school.

Work on the year book has begun. The annual staff, chosen by the student council, is as follows: editor, Glenn E. Darrow; associate editor, Harold Coe; business manager, Gail C. Steiner; assistant business manager, Thomas Orton, Jr.; literary editor, Esther Elston; assistant literary editor, Lucille Ratliff; organization editor, Laurence S. Betts; sports editor, George Richardson; art editors, Donley Gates and David H. Reeder. Much credit is due Dr. Herman Shablin for the annual published last year. It was the first one ever put out by the students of the college, and it was made possible through his untiring efforts. With a staff of ten members we hope to have a bigger and better book this year. Editor Darrow has been on the jump, and all of the departments have their work well lined up.

Volunteer workers in the O. L. A. have landed several O. B. cases in various parts of the city. Especially appreciative of these clinical advantages are the juniors, as the experience in this line of work will be very beneficial in years to come. The method of carrying on this work was planned by Dr. Annie G. Hedges, whose ability to plan things seems unlimited. Each senior is made the captain of a group of juniors that he selects; they find as many cases as possible for that senior and in turn are allowed to be present at the examinations and deliveries. The plan is working admirably and has aroused keen interest.

On Tuesday, November 15, a Home Talent program was given for the benefit of O. L. A., and a nice little fund was started. The first half of the program consisted of readings and songs, and this was followed by folk dancing conducted by Dr. Hoernig. A Christmas program was rendered Wednesday night, December 21, by the O. L. A. and Clinic Improvement League, in a united effort to raise funds, the proceeds to be divided between the two organizations. The "Womanless Wedding" was played by a cast chosen from the student body, and was conducted by Lucille Ratliff of the sophomore class. It was a decided success, as anyone who was present would tell you. A few short numbers were rendered, and then came Santa Claus with his bells and merry laugh. Of course Dr. Styles played that part. There were gifts and candy for everyone, and it was hard to tell who enjoyed the toys most, the tall children or the short ones. The assembly hall was appropriately decorated in the colors of the season, and the friends and patrons who gathered there must have felt that an effort was made to provide an evening of good cheer. Both organizations gained financially, and it is needless to say that they worked for it.

The Clinic Improvement League, whose purpose is to provide more equipment for the treating rooms, has a growing fund, and has had several nice donations. A benefit dance was given by the Phi Sigma Gamma fraternity, December 16.

Our basketball boys are doing some very creditable playing. They have entered the M. and J. Basketball League, and have played three games so far. The first game was December 2, with the Brotherhood of Railway Clerks, Express Division. Our boys were victorious. On December 7 we played the Uneeda Bakers, and again walked off with the heavy end of the score. The last game at this writing was December 16, and although our boys showed remarkable skill and endurance, they lost to the Folgers Coffee team, with a score of 53-41. On January 3 we play the K. C. Life Home Office.

A men's glee club of about twenty voices has been organized, and plans are made for regular practice during the second semester. This is not by any means the extent of musical ability to be found in the college, but it is a nucleus and we hope to have a "sight-o'-plasm" added to it. An orchestra also is in process of formation, and with these two musical clubs at work, our "home talent" programs should become better and more numerous.

The college was favored December 20 by a very interesting lecture by Dr. R. A. Richardson. He told us of several unusual cases which he contacted while on his world tour, and gave us several pointers on the care of the eyes and the general health. At the same assembly the representative man, representative woman, and college queen were elected. Mr. George Richardson and Miss Theodora Wright from the senior class were chosen as best representing the student body of the college, and Esther Elston was elected queen.

On November 22, Dr. Fred C. Husk, a chiropodist of the Hurley Shoe Co., lectured to the junior and senior classes for a couple of hours. No one seemed tired at the end of that time, as the demonstrations of foot technic that he gave us were clear and concise and such as we need impressed upon us.

A meeting of the City Osteopathic Association was held December 20 at the Ivanhoe Club. A delicious turkey dinner was served at six-thirty to about eighty people. Delightful music was rendered throughout the dinner by the Duo-Art from the Jenkins' Music Co., and a beautiful solo was sung by Miss Ruth McNeff. Dr. Larimore then presented the speaker of the evening, Dr. George Laughlin, who delivered a very interesting lecture on "The Evolution of Osteopathy." This was followed by several Christmas carols, in which everyone took part.

The Delta Chapter of the Kappa Psi Delta Sorority enjoyed a very beneficial visit and talk with Dr. Clara Bean of Brooklyn. Her inspirational talk was greatly enjoyed by the girls. Through the generosity of Dr. Bean the chapter was presented with a beautiful plaque mounting of the sorority shield. At the December meeting they were favored by an interesting talk by Mr. M. E. Paxton, business manager of the Lakeside Hospital.

The Mastoid Chapter of the Atlas Club held two official meetings during the month of November. Six pledges conducted themselves nobly through their stormy initiation into the intricacies of the club. They are proud of their new brothers—Brown, Howard, Hoskins, Rucinski, Vetrano and Waldon, and extend a hearty welcome to them. The club is as peppy as ever this year, and as the holiday season and the New Year approach, they wish to extend to all a hearty greeting.

On Tuesday, November 1, the Epsilon Chapter of the Phi Sigma Gamma fraternity held a business meeting in the auditorium of the college, with only student members present. Thursday evening, November 10, found them assembled at the club rooms of the Broadview Hotel for a short meeting. Those present were active members, pledges, and Drs. W. A. Warren and E. C. Wycoff, field members of the fraternity. The two doctors gave benecial addresses on "Tips on General Practice." On Friday, November 18, they met at Dr. Warren's office for a G. U. clinic, with Dr. Wycoff assisting Dr. Warren. The patients were furnished by student members, and all those present derived much benefit from the clinic. The unipolar degree initiation was given, to the pledges on November 21 in the club rooms of the Broadview Hotel; and the bipolar and multipolar degree initiation was held there on December 14. On Friday, December 2, Mr. Robinson, of the Swann Meyers Laboratories, gave a very good lecture on "Bacterial Vaccines and Antitoxins" at Dr. W. A. Warren's office. Another business meeting with only active

members present was held Thursday, December 8, at the college. The fraternity sponsored a dance Friday night, December 16, for the benefit of the Clinic Improvement League.

The Iota Tau Sigma fraternity report that their work is progressing nicely, and that future prospects are bright. They have seven new members who have received their third degree work, and are true and loyal ITS men. Their annual fall festival was held at the Hotel Ambassador, and was very much enjoyed by all those present. Election of officers was held this month. Much credit is due the retiring officers for the way in which they have filled their various positions; and their successors are striving to keep up to the same standard.

With the passing of nineteen hundred twenty-seven we pause for reflection. Behind us—what? We students can never know of the hills climbed, the streams forded, and the paths cleared in the working out of a cherished plan to further the cause of osteopathy. But what of the future? Aye, there is where our part is to be played. Not in the coming year only, but so long as there shall be years, what little or much we may accomplish for osteopathy will have its bearing, its influence. May we pass this thought on to all of you who are students of osteopathy, the future doctors of our profession!

The board of control, the faculty, and the student body of the Kansas City College of Osteopathy and Surgery, unite in extending to you, one and all, our most sincere wishes for a happy and prosperous nineteen hundred twenty-eight.

## KIRKSVILLE COLLEGE OF OSTEOPATHY AND SURGERY

### MEMORIAL ASSEMBLY

On December 15 a Memorial and Christmas Assembly was held in the college auditorium. The Men's and the Women's Glee Clubs were combined for the occasion and presented some splendid numbers of a Christmas character. Rev. Waggoner read a Christmas message.

The rest of the program was devoted to eulogies of Dr. A. T. Still. The speakers were Dr. A. G. Hildreth, of Macon, and Drs. George Fulton, F. L. Bigsby, H. G. Swanson and George M. Laughlin of the college faculty. Following the program, a wreath was placed on the Old Doctor's grave, according to the usual custom.

### GEOGRAPHIC SOURCE OF STUDENTS

| | |
|---|---|
| Ohio | 104 |
| Missouri | 86 |
| Michigan | 51 |
| Illinois | 38 |
| Massachusetts | 27 |
| Iowa | 25 |
| Pennsylvania | 24 |
| Kansas | 23 |
| New York | 21 |
| Montana | 18 |
| Nebraska | 18 |
| New Jersey | 16 |
| Minnesota | 16 |
| Indiana | 15 |
| Maine | 15 |
| Texas | 14 |
| Colorado | 13 |
| Florida | 9 |
| North Dakota | 9 |
| Washington | 9 |
| Connecticut | 7 |
| Rhode Island | 7 |
| Vermont | 7 |
| Wisconsin | 7 |
| California | 6 |
| Georgia | 5 |
| Oklahoma | 5 |
| Louisiana | 3 |
| New Hampshire | 3 |
| Oregon | 3 |
| South Dakota | 3 |
| Tennessee | 3 |
| Hawaii | 2 |
| Idaho | 2 |
| Kentucky | 2 |
| North Carolina | 2 |
| West Virginia | 2 |
| Arkansas | 1 |
| District of Columbia | 1 |
| Maryland | 1 |
| Virginia | 1 |
| Canada | 18 |
| British Isles | 4 |
| Japan | 3 |
| Norway | 1 |
| Sweden | 1 |
| | 651 |

### RAMS MAKE RAPID STRIDES IN ATHLETICS

The football season just closed has been a most successful one for the K. C. O. S. Rams. Under Dr. "Gil" Meyers, the team has made phenomenal progress. They lost only one game, the first of the season, and that to the strong Haskell Indian team. The season's record is:

| | | | |
|---|---|---|---|
| Rams | 0 | Haskell Indians | 14 |
| Rams | 6 | Arkansas Tech | 0 |
| Rams | 13 | Westminster | 0 |
| Rams | 17 | Iowa Wesleyan | 0 |
| Rams | 132 | Jackson U. | 0 |
| Rams | 13 | Rolla Miners | 13 |
| Rams | 19 | Warrensburg T. C. | 0 |
| Rams | 12 | Des Moines Still | 7 |
| Rams | 212 | Opponents | 34 |

Outstanding features of the season were interesting. Arkansas Tech had not lost a game on its home field for six years until the osteopaths invaded Russellville. The 132-0 score against Jackson U. is the season's highest score for college teams. In the game against Iowa Wesleyan, Hughes booted a 52-yard place kick. In the same game, Bulger punted for 89 yards. As far as can be learned, these are college records for the season.

The advance made by the Rams under Dr. Meyers is all the more impressive when one compares the record of this season's team with that of 1925, the year before he took over the coaching reins. That year the Rams won only one game, scoring a season's total of only 13 points to their opponents' 85. This year's team, facing a much harder schedule, lost only one game and scored a season's total of 212 points against the opponents' 34.

Dr. Meyers has developed a fast, hardy, hard-hitting aggregation. The passing game displayed by the Rams has been the sensation of every game played, being responsible for most of the scoring. The combination of Wendler to Weihl has been most efficient.

Efforts are being made to schedule games with larger schools for next year. Only one letter-man is lost by graduation and next year's Rams can be depended upon to claim national recognition.

Twenty-five men received letters this year. They are: Captain Lew Walters, Atlantic City, N. J.; Robert Beyers, Pella, Ia.; Warren Bradford, Dayton, O.; Arthur Bulger, Malone, N. Y.; Donald Coats, Macomb, Ill.; Steve Curran, Menomonie, Wis.; Richard Dobeleit, Dayton, O.; Harry Frew, Paradise, Pa.; Thomas Gilchrist, Macomb, Ill.; William Hinds, Bellingham, Wash.; Fred Huetson, Vermillion, S. D.; A. W. Hughes, Royal Oak, Mich.; Howard Kenaga, Royal Oak, Mich.; John Kline, Malvern, Iowa; Rae Kneeshaw, Fargo, N. D.; David Latta, Atlantic City, N. J.; Howard Messmore, Utica, Mich.; Ralph Norman, Chillicothe, Mo.; David Rittenhouse, New York, N. Y.; Ben Soule, Portland, Me.; David Steinbaum, Bayonne, N. J.; Ralph Tallon, Saginaw, Mich.; Lyman Tibbles, Miles City, Mont.; Fred Weihl, Marietta, O.; Harold Wendler, Fremont, O.; Manager Paul Schiele, South Haven, Mich.

### CAPTAINCIES ABOLISHED

Along with the awarding of letters, Dr. Meyers announced that the athletic committee took action to abolish election of captains by the various athletic teams. This action was taken in the best interests of the school. Under the old system, politics arose largely from a coalition of fraternities. The defeated faction caused trouble, and even unsuitable men were sometimes chosen. In the interest of harmony the new system will be used, whereby the

coach will designate a field captain for each game. In order to provide a reward for outstanding ability, at the end of the season the letter men in the sport will select someone from their number as an honorary captain.

FACULTY BANQUET

Another new custom was inaugurated this year, the faculty giving a banquet for the football men. This was held on December 8, at the Travelers Hotel. About sixty attended this very enjoyable affair.

### PHILADELPHIA COLLEGE OF OSTEOPATHY

On November 30, Dr. Orel F. Martin, former professor of surgery at the Massachusetts College of Osteopathy, and now surgeon-in-chief at the newly dedicated Massachusetts Osteopathic Hospital, gave a very interesting talk before the junior and senior students. Of particular interest to those contemplating the Massachusetts Board was the information given by Dr. Martin regarding the opportunities for internships in the new Osteopathic Hospital and the welcome extended to all Philadelphia College graduates to participate in the competitive examinations to fill the vacancies after July 1, 1928.

Dr. O. J. Snyder, founder of the Philadelphia College of Osteopathy, president of the Board of Osteopathic Examiners of the State of Pennsylvania, and past president of the American Osteopathic Association, addressed the student body of the college at the noon hour, December 7. His earnestness, sincerity and uncompromising faith in the principles of osteopathy always make an hour with him highly profitable. He particularly emphasized the fact that patients come to the osteopathic physician for osteopathic treatment, saying "Give your patients osteopathy. That is what they come for and that is what gets results."

Dr. Arthur M. Flack, former dean of the Philadelphia College of Osteopathy, addressed the Kappa Psi Delta Sorority at an open meeting on Friday, December 9. "Ethics" was the subject chosen.

The regular monthly meeting of the college faculty and the hospital staff was held Tuesday evening, December 13, in the assembly room. A scientific program preceded the regular business meeting. Dr. D. S. B. Pennock, chief surgeon to the hospital, spoke on "New Methods—Treatment of Fractures," advising the staff of his experiences and observations along these lines while taking postgraduate work in Vienna last summer. Dr. William Otis Galbreath, ophthalmologist, talked on "Refraction." Dr. C. D. B. Balbirnie's paper was entitled "Fallacy of Medicine." Dr. Mary Patton Hitner told of some practical experiences in the field of Acute Infectious Diseases, and informed the faculty of the benefit derived by our students in their attendance weekly upon the clinics conducted for them at the Municipal Hospital for Contagious Diseases. Dr. Edward A. Green recounted the practical value of Basal Metabolism, while Dr. Foster C. True gave several clinic cases records. Various committees of the faculty and hospital staff reported their activities, as well as each department of the college and hospital.

The Student Assembly on Friday, December 16, at noon, brought to a close the class work of the year 1927. An appropriate program was arranged by the Neuron Society, including messages from Dean Edgar O. Holden and Dr. J. Ivan Dufur. The assembly room was decorated in true Christmas fashion, the Christmas tree and trimmings being transferred to the wards of the hospital after the affair.

The Second Annual Interfraternity Ball was held in the crystal room of the Adelphi Hotel on Friday evening, December 16. The affair was quite successful, due no doubt to the splendid support of the various organizations and the presence of many faculty members and a great number of graduates.

With the opening of the basketball season, both the varsity and freshman squads are working hard to develop teams of a caliber that will be able to successfully handle the difficult schedules of games that have been arranged. The varsity opened their season Saturday, December 10, playing the well-groomed team of Washington College at Chestertown, Maryland. The Eastern Shore quintet outscored the brilliant playing team of osteopathy 47-37.

For a greater P. C. O. $6,000 annually for five years is the goal sought through subscriptions to a Guarantee Fund, covering interest on fixed charges. When this amount is pledged the board of directors will feel justified in negotiating a loan whereby the new college and hospital building program may be initiated. The total to date amounts to $5,100, through subscriptions by 112 supporters.

E. S.

## State and Divisional News

### OSTEOPATHIC CONVENTIONS

#### Announcements

American Osteopathic Association, A. T. Still Centennial Convention, Kirksville, Mo., week of August 6, 1928. Program chairman, Dr. Hubert J. Pocock, Toronto.

California. Mid-winter meeting. Yosemite, January 29, 30. Annual convention, Riverside, first week in June.

Florida. State convention, Tampa, in May.

### ARKANSAS

#### Texarkana Osteopathic Society

The November meeting was held about the middle of the month. The program included the following: Dr. B. F. Moore, Commerce, Texas, "Pelvic and Abdominal Reflexes"; Dr. George E. Hurt, Dallas, "Infantile Paralysis"; Dr. Donald M. Lewis, Little Rock, "Malaria."

### CALIFORNIA

#### Bay Osteopathic Association

The December meeting was held in the Women's Building, December 1. Dr. Wilbur Swett of the Department of Ophthalmology at Stanford University addressed the meeting on the subject of glaucoma.

#### Citrus Belt Osteopathic Association

Dr. J. K. Anderson reports that at a meeting in San Bernardino, November 10, Dr. W. W. Pritchard, Los Angeles, spoke on "Diseases of the Rectum."

#### East Bay Osteopathic Society

Through error, the December JOURNAL reported the October meeting as being held at San Francisco. It consisted of a dinner and dance attended by about 75.

The November meeting, Dr. Peckham reports, was held at the Osteopathic Clinic. Gall-bladder and liver diseases were discussed by Drs. Ernest Pope, former city physician of Berkeley, and E. I. Kushner.

#### Kern and King Counties

It is reported that Dr. E. W. Davidson, Willmar, addressed the osteopathic physicians of Kern and King counties at Visalia, October 30.

#### Long Beach Osteopathic Association

Dr. Etha M. Jones spoke on "Eyes" at the November meeting on the 17th.

#### Los Angeles

The December meeting was held on the 12th. The subject was "Psychiatry in Theory and Practice," by Drs. W. M. Elerath and T. W. McAllister.

#### Los Angeles Osteopathic Surgical Society

"Carcinoma of the Gall Bladder and Liver" was the title of the paper read before the Los Angeles Osteopathic Surgical Society on December 5 by Dr. Wm. Bartosh, past president of the society. The doctor gave, in detail, modern methods in diagnosis and surgical technique.

Dr. R. D. Emery demonstrated the use of, and spoke on "The Value of the Electric Scalpel in Surgery of the Abdomen."

Dr. Curtis Brigham gave a blackboard talk on the "Surgery of Carcinoma of the Stomach."

Dr. Wilbur T. Hurt reported four cases of gastric ulcer successfully treated with the quartz light. Much

discussion, pro and con, centered on this report. Many freely expressed themselves on the limitations of physiotherapy as compared with sensible surgery in these and other surgical conditions, emphasizing pathology of the nose, throat and ear.

T. J. RUDDY,
Publicity Chairman.

### Pasadena Osteopathic Society

The December meeting was held on the 14th, addressed by Dr. Charles Finley on "Corrective Posture," and Dr. Charles Spencer on "Adaptation and Compensation." A resolution was adopted endorsing the action of the city in providing a municipal golf course and municipal auditorium. An invitation was presented from the Women's Osteopathic Club for all members to attend an open meeting at the Research Institute, at which Dr. Carl P. McConnell was guest of honor.

Dr. Painter reports that the November meeting was held on the 17th, with an address by Dr. W. Curtis Brigham on "Visceral and Somatic Reflexes." Case reports were presented by Drs. Idella Craner, R. A. Schaub and W. C. Bondies.

### Sacramento Valley Osteopathic Society

A meeting was held in Stockton December 3. Dr. Edgar F. Comstock, Oakland, spoke on "Nutrition," and Dr. Carter H. Downing, San Francisco, discussed "Kidney and Gall Bladder Conditions."

### San Diego County Osteopathic Association

Dr. Vera George, president of the association, was hostess at the monthly meeting held on the 11th. After the regular business meeting there was an address by Dr. F. P. Horan.

### San Jose District Osteopathic Society

Dr. Ernest Sisson, Oakland, spoke on "Spinal Lesion," demonstrating technic and exercises for correcting abnormal foot conditions at the November meeting held in San Jose on the 10th.

Dr. E. H. Pape, Berkeley, discussed acute gall-bladder conditions, and Dr. R. A. Peters, also of Berkeley, pathological obstetrics, at the December meeting held on the 8th in Palo Alto.

## COLORADO

The first of a series of three meetings to be held in Colorado this winter, was held at Manitou November 26. Dr. M. Freeda Lotz, vice-president, was in charge. There were addresses by Drs. W. R. Benson, Longmont; D. L. Clark, Jenette H. Bolles, F. I. Furry and C. L. Draper, Denver, and Rodney Wren, Pueblo.

There was a dinner followed by a number of talks including one by the Hon. R. A. Johnson of Minot, N. D., who stressed the idea of better professional cooperation for better professional efficiency.

It was announced that the second of the series of meetings would be held in Denver January 2 and 3, with the first day given over to a free clinic for the treatment of the hard of hearing in charge of Dr. Curtis H. Muncie of Brooklyn.

## FLORIDA

### Duval County Osteopathic Society

Tributes of respect to the late Dr. Paul R. Davis were a part of the November meeting held at Jacksonville on the 18th.

### Tampa Osteopathic Society

Drs. A. George Chappell and H. B. Merner of Jacksonville addressed the Tampa Osteopathic Society at its November meeting, relative to plans for the state convention to be held at Tampa in May.

## IDAHO

### Boise Valley Osteopathic Association

A meeting was held at the office of Dr. H. B. Catron in Payette on December 6.

## ILLINOIS

### Fifth District Osteopathic Society

A quarterly meeting was held in Joliet December 1, with a luncheon and then a program in charge of Drs. John H. Styles of the Kansas City College, and C. H. Morris of the Chicago College, with lectures, demonstrations and round table. The Chicago meeting for that night was omitted in order that its members might attend.

### Fifth District Osteopathic Society

A meeting was held in Champaign December 8, with an address by Dr. W. A. Schwab of the Chicago College of Osteopathy. It is reported that Dr. O. R. Hurd, Champaign, was elected president, and Dr. H. F. Garfield, Danville, secretary-treasurer.

### Chicago—North Shore Osteopathic Society

Dr. S. D. Zaph of the Chicago College spoke on "Surgical Obstetrics" on December 2, it is reported by Dr. G. H. Smith, secretary.

On December 16 Dr. O. E. Andres of Winnetka spoke on "Ultraviolet Rays."

The work of the clinic is progressing nicely, with a different group of physicians in charge each month.

### Jacksonville Osteopathic Society

Osteopathic physicians and their wives from Jacksonville and surrounding towns have arranged for monthly dinner parties, the first of which was held at the home of Dr. L. E. Staff, Jacksonville, on November 16.

### Rockford

Dr. and Mrs. A. S. Loving entertained the local society at a dinner on November 10 in honor of Dr. and Mrs. R. B. Hammond.

## IOWA

### Second District

A business meeting was held at Council Bluffs November 10 and the following officers chosen: President, Dr. D. M. Kline, Malvern; vice-president, Dr. A. C. Brown, Council Bluffs; secretary-treasurer, Dr. Roberts, Missouri Valley. District trustees, Drs. Harry Gamble, Missouri Valley; Martha B. Morrison, Clearfield, and Sherman Opp, Creston. State trustee, Dr. D. M. Kline, Malvern.

### Iowa Osteopathic Physical Therapy Society

A meeting was held on November 20 at the office of Dr. Martin Biddison, Nevada, Iowa. The officers of this organization are Drs. James E. Gray, Newton, president, and Georgia Chalfont, Pella, secretary-treasurer. The society was organized about three years ago for the purpose of developing technic, determining indications and contraindications, dosage and general results from the use of various physical therapy modalities. There is a membership of about twenty-five.

## KANSAS

### Arkansas Valley

The Arkansas Valley Society of Osteopathic Physicians and Surgeons held its regular monthly dinner and business meeting in Kinsley November 30. The business and scientific sessions were held in the office of Dr. C. F. Smith. Dr. E. F. Pellette of Liberal was the principal speaker of the evening and read a paper on "Colitis." The remainder of the program was devoted to the examination, diagnosis and treatment of clinical patients.

F. E. Loose, D.O.,
Secretary.

### Cowley County Society

Members of the Wichita Osteopathic Society were guests of the Cowley County Society in Winfield on December 15.

### Sedgwick County

Dr. F. J. Cohen, Wichita, addressed the county society on November 29.

### Verdigris Valley

A meeting was held November 16 at the office of Dr. E. L. Cowman at Independence. The subject for discussion was "Ills of the Feet." Officers were elected as follows: Dr. Wayne Weaver, Fredonia, president; Dr. H. F. Swain, Chanute, vice-president; Dr. H. S. Wiles, Neodesha, secretary-treasurer.

### Wichita

A large number of osteopathic physicians from southern Kansas and northern Oklahoma held an all-day clinic at the Southwestern Osteopathic Sanitarium, Wichita, December 1. Officers of the Wichita Osteopathic Society were elected as follows: President, Dr. S. H. Nolen; vice-president, Dr. H. E. Wells; secretary-treasurer, Dr. C. A. Tedrick.

## KENTUCKY

### State Society

Among the speakers on the program of the annual state convention in Louisville on November 5 were Dr. Marvin J. Coffman, Owensboro, who spoke on "Infantile Paralysis"; Dr. Stanley G. Bandeen, Louisville, "The Vegetative Nervous System and Blood Chemical Changes"; Dr. Martha Petree, Paris, "Pneumonia"; Dr. Russell Peckham, Chicago, "Athletic Injuries and Neuritis."

Officers were elected as follows: President, Dr. Josephine Hoggins, Frankfort; vice-president, Dr. J. W. Lawrence, Paducah; secretary and treasurer, Dr. Ella Shifflett, Louisville. Executive committee, Drs. H. H. Carter, chairman; E. W. Patterson, C. J. Johnson, Stanley Bandeen, N. H. Wright, J. O. Day and R. H. Miller.

## MAINE

The osteopathic physicians of the state are getting together monthly and sectional societies have been formed at Presque Isle, Bangor, Rockland and Augusta.

### Eastern Maine

It is reported that a meeting was held in Bangor December 3 at which Dr. C. B. Doron, president of the Eastern Maine Society, presided. Among the special guests were Drs. G. C. Shibles, Westbrook, president of the state society, and A. E. Chittenden, Auburn, secretary of the state examining board.

### Portland

Dr. G. C. Shibles, president of the state society, was in charge of a meeting held at Portland November 17, arrangements for which had been made by Dr. S. T. Rosebrook.

Among the speakers were Drs. Anne Hicks, Portland; Mason H. Allen, Portland; Arthur W. and Virginia Gay King, Augusta, and Albert Chittenden, Auburn.

## MASSACHUSETTS

The twenty-fifth annual meeting of the Massachusetts Osteopathic Society will be held at the Hotel Statler, Boston, Saturday, January 7. Dr. John MacDonald, chairman of program, has arranged to have the following osteopathic physicians address the gathering: Drs. Charles S. Green, New York; H. R. Bynum, Memphis; C. J. Gaddis, secretary of the A. O. A.; J. Oliver Sartwell, Boston; Edward Sullivan, Boston, and two others to be announced later.

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## MICHIGAN

Under the Department of Judiciary and Legislation of the Michigan Society, with Dr. E. A. Ward, Saginaw, as general chairman, the personnel of the Bureau of Legislation is as follows: Drs. Mark Harzfeld, Detroit, chairman; J. C. Trimby, Detroit; Wm. Cox, Detroit; W. H. Cottrille, Jackson; H. W. Conklin, Battle Creek, and George B. Clarke, Detroit, legal standing and defense.

The Battle Creek Society entertained the osteopathic physicians of the Southern Michigan District on December 1. Dr. F. Hoyt Taylor, Lansing, president of the state society, and Dr. E. A. Ward, Saginaw, vice-president, were among the speakers, and Dr. Walter Darling, secretary-treasurer, Detroit, was in attendance.

Officers of the local society were: President, Dr. Paul Morgan; secretary-treasurer, Dr. Harold Spore.

### West Michigan Society

At the business meeting on November 10 the president elected was Dr. Winifred McLravy instead of McLeary as stated in the December JOURNAL.

## MISSOURI

### Central Missouri Society

Following is the program of the meeting held in Columbia, November 17:

Clinical Examinations, Demonstrations and Operations by Drs. Laughlin, Larimore, Ewing and J. H. Hardy.

"Cast or Bone Work," Dr. Geo. M. Laughlin.

"Post-Operative Care," Dr. John E. Halladay.

"Mastoiditis," Dr. L. S. Larimore.

"Publicity," Dr. H. E. Litton.

"Medical Therapeutics as Taught by K. C. O. S.," Dr. Green.

Dr. L. B. Lake, Jefferson City, is president of the society.

### Southwest District

Diseases of the chest and their treatment was the subject for discussion at a meeting in Carthage, November 17. It was announced that Dr. George Laughlin would address a meeting to be held in Joplin, January 18.

### West Central District

A meeting was held in Sedalia, December 1. Among the guests were Drs. J. T. Hardy, Columbia, president of the state society, and L. B. Lake, Jefferson City, president of the Central District Society.

Officers were elected as follows: President, Dr. E. D. Halbert, Sedalia; vice-president, Dr. T. C. Moffet, Windsor; secretary-treasurer, Dr. H. G. Hueftle, Warrensburg.

### St. Louis

Following is the program as published in advance for the December meeting held on the 20th:

"Adjusting Theories to Facts," Dr. Laura Chappell.

"Analytical Psychology," Dr. Q. L. Drennan.

"Stubborn Head Colds and a Brief Review of the Accessory Sinuses," Dr. J. D. Edwards.

Question Box.

## NEBRASKA

### Blue Valley Association

It is reported that a meeting was held at the office of Dr. J. M. Edmund at Fairbury, November 11 and 12. Drs. T. O. Pierce, St. Joseph, Mo., and J. M. Edmund were among the speakers.

### Northeast Nebraska

A quarterly meeting was scheduled for December 7, with an extensive program and banquet, but on account of the very severe weather the attendance was small and an informal meeting was held in the office of Dr. L. C. Johnson. The March meeting will be held in Fremont.

Dr. O. D. Ellis, Norfolk, is in charge of publicity in connection with these meetings, and newspapers over the district cooperate well.

## NEW YORK

### Osteopathic Society of the City of New York

At the December meeting on the 17th, Miss Sophia Milthack of Brooklyn gave a demonstration of function and conscious muscle training. Dr. Donald B. Thorburn gave a clinical demonstration of the treatment of asthma.

### Rochester District

The annual old-fashioned Christmas party was held December 16 at the home of Dr. Clarence J. W. Beal.

### Southern Tier Society

The December meeting was held on the 14th at the office of Dr. H. J. Pettit, who read a paper on "Constructive Finger Surgery of the Eye, Ear, Nose and Throat." Clinic cases were present to allow demonstrations for the correction of deflected septums, enlarged turbinates and tonsils as well as granulated eyelids.

### Western New York Osteopathic Association

Dr. F. C. Lincoln, president, reports that meetings are held on the first Saturday in each month. The December meeting was held at the Buffalo Consistory, and an important part of the program was a turkey dinner, during which Mr. Trumbull Jackson rendered several musical

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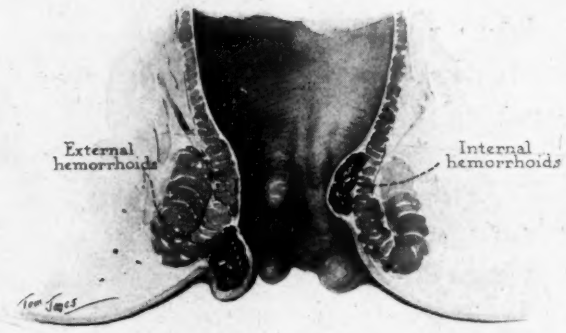


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## OHIO

### Cincinnati

A lyceum program for the year was outlined at the December meeting, held on the eighth in the office of Dr. C. S. Kennedy, who led a discussion on the subject "Lesions of the Lumbar Spine."

### Dayton

An osteopathic noontide club has been organized in Dayton, which meets at the Gibbons Hotel every Monday. The first speaker was Dr. A. O. Peters, city health commissioner. Officers of the society are as follows: president, Dr. O. G. Stout; vice president, Dr. Robert F. Haas; secretary-treasurer, Dr. Robert L. Taylor.

### Middletown

Dr. Charles M. LaRue, Columbus, conducted a clinic in the office of Dr. W. B. Linville, on December 15. In the evening he addressed the local on the subject of physical examination of eye, ear, nose and throat.

### Dayton District

The December meeting was held on the eighth in Piqua. Reports of four hundred cases were made by Dr. Robert L. Taylor of Dayton. Dr. Carrie E. Hutchinson also appeared on the program.

### Lorain County

A meeting was held in Lorain, December 1, with a discussion led by Dr. H. L. Knapp, Elyria.

### Southeastern District

A new organization was formed at a meeting held in Marietta, December 1. Dr. L. T. Hess, Zanesville, secretary of the state society, presided. Dr. Byron LaRue, Chattanooga, Tenn., spoke on osteopathic care of infantile paralysis, and Dr. M. A. Boyes, Parkersburg, W. Va., on diagnosis of gall-bladder disease by means of the x-ray. Dr. Charles M. LaRue, Columbus, also spoke, and Dr. T. V. Sullivan, president of the West Virginia society, brought greetings from that organization. Officers were elected as follows: president, Dr. I. N. Beall, Barnesville; vice-president, Dr. L. M. Bell, Marietta; secretary-treasurer, Dr. Louis Schreck, Cambridge.

## OKLAHOMA

### Kay County

The Kay County Osteopathic Society was reorganized at Tonkawa on November 20, with the following named officers: president, Dr. F. C. Davis, Tonkawa; vice-president, Dr. D. A. Shaffer, Ponca City; secretary, Dr. R. F. Price, Blackwell.

Another meeting was held December 15 at Blackwell with a talk on "Surgery and Anesthetics," by Dr. W. W. Palmer.

## OREGON

### Willamette Valley

A meeting was held on December 10 in the office of Dr. A. P. Howells at Albany. A demonstration of x-radiance and fluoroscopy was the feature of the meeting.

## PENNSYLVANIA

### Northeastern District

Dr. J. Ivan Dufur, president of the Dufur Osteopathic Sanitarium at Ambler, Penna., spoke on "Fear" at the annual dinner meeting of the Northeastern Association, held in Wilkes-Barre, December 10.

### Philadelphia

The October meeting was held at the Dufur Sanitarium at Ambler.

The program for the November meeting on the 17th, as published in advance, included "The Osteogram" by Dr. Frederick A. Long, and "Standardized Technic' by Dr. C. Haddon Soden.

The December program as published in advance was featured by an address on "Diagnosis of Nose, Throat and Sinus" by Dr. Thomas R. Thorburn, New York, discussed by Drs. William Otis Galbreath, C. Paul Snyder, John H. Bailey and Earl V. Dunnington of Philadelphia.

The question of a site for the new hospital and college building was to be discussed at the December meeting.

## RHODE ISLAND

"Professional Psychology" was the subject of an address by Dr. Frank D. Stanton of Boston, at the November meeting held at the home of Dr. Alexander Pausley, president of the society, on November 10.

The December meeting was held on the eighth at the home of Dr. Charles D. Flanagan in West Barrington. Dr. Flanagan spoke on "Pneumonia." Dr. George Bridges gave a sketch of the passage of the new osteopathic bill and spoke on "Education of Those in Authority."

## TEXAS

### Dallas - Fort Worth

The semi-annual meeting of this organization, of which Dr. H. M. Bowers of Dallas is president, was held December 3.

Among the speakers on the program were Dr. Hugh Beaton, Dallas, on "Diagnosis"; Dr. J. W. McPherson, Dallas, secretary of the state society, on "Endocrines"; Dr. Charles F. Kenney, Fort Worth, president of the state society, "Diseases That Have Their Origin in the Heart and Lungs"; Dr. H. M. Walker, Fort Worth, "The Value of Enemas in Sluggish Intestinal Conditions"; Dr. John L. Peterson, Fort Worth, "Diseases of the Bones"; Dr. T. L. Ray, Fort Worth, "Sacroiliac Lesions"; Dr. Phil R. Russell, Fort Worth, "The Schellberg Method of Colonic Irrigation."

## WASHINGTON

### King County

Dr. Roberta Wimer-Ford reports that the November meeting was held in the offices of Drs. Ada E. and H. A. Mack and Claude C. Heckman. Dr. L. J. Bingham lectured on Ambulant Proctology, with the examination and diagnosis of clinics.

Dr. Claude C. Heckman, secretary, reports that the December meeting followed a dinner. Dr. E. W. Pruett, president of the society, presided, and Dr. Arthur D. Becker spoke on "Diagnosis and Treatment of Pneumonia."

### Pullman

Dr. and Mrs. E. A. Archer entertained a group of doctors and their wives on November 18, followed by a professional meeting.

## WEST VIRGINIA

### Monongahela Valley

The Monongahela Valley Osteopathic Society was organized at a meeting in the office of Dr. Preston B. Gandy at Fairmont, November 17. Its membership includes physicians in Buckhannon, Weston, Clarksburg, Grafton, Elkins, Fairmont and Morgantown, W. Va., and Uniontown, Charleroi, Mount Morris, Waynesburg and Connellsville, Pa.

Arthritis was the subject for discussion at the first meeting. Colds, their treatment and prevention, was the subject of the second meeting held in the offices of Dr. Robert E. Coda, Fairmont, on December 8.

## CANADA

### Toronto Association of Osteopathic Physicians

The December meeting was held on the fifteenth in

the offices of Dr. W. L. Durnan. Speakers were Drs. M. E. Moyer, Hamilton, on "Osteopathic Corrective Exercises," and W. A. Hinsperger, Toronto. on "The Common Cold: Its Etiology and Treatment."

### BRITISH OSTEOPATHIC ASSOCIATION

At the annual convention on October 29 officers were elected as follows: president, Dr. George Macdonald; vice-presidents, Drs. Grantham Browne and Robert E. Nye; secretary, Dr. Edith M. Webb; treasurer, Dr. Sydney G Semple.

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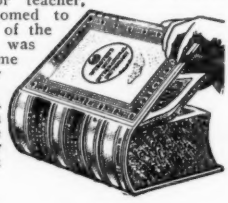

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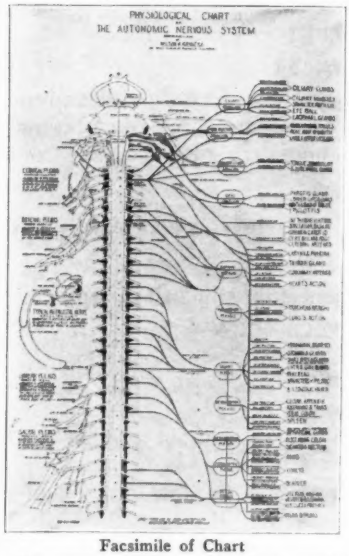


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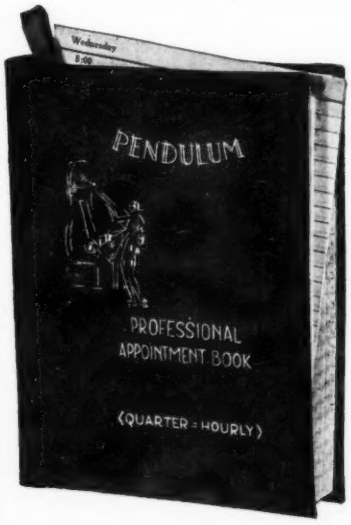


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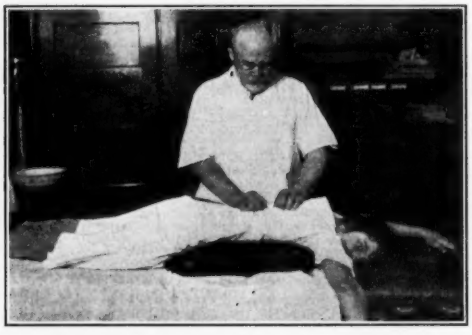

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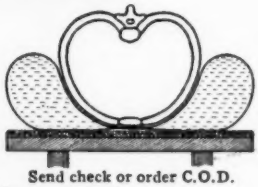

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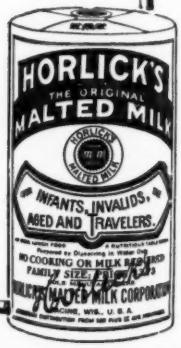


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